

NBS SPECIAL PUBLICATION 449

U.S. DEPARTMENT OF COMMERCE / National Bureau of Standards

Chemical Kinetics of the Gas Phase Combustion of Fuels

(A Bibliography on the
Rates and Mechanisms of Oxidation
of Aliphatic C₁ to C₁₀ Hydrocarbons
and of Their Oxygenated Derivatives)

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Chemical Kinetics of the Gas Phase Combustion of Fuels

(A Bibliography on the Rates and Mechanisms of Oxidation
of Aliphatic C₁ to C₁₀ Hydrocarbons and of Their
Oxygenated Derivatives)

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David R. Lide, Jr., Chief
Office of Standard Reference Data

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C₁ COMPOUNDS

| ATTACKING MOLECULE OR RADICAL REACTING HYDROCARBON SPECIES | θ | θ ₂ | θ ₃ | θH | Hθθ· | R· | RH | Rθ· | Rθθ· | (?) DCMP | (*) RCMB | (§) MISC |
|--|----------------------|----------------------|----------------|----------------------|----------------------|----------|----------|----------------|----------|----------------------|-------------|----------------------------|
| CH ·CH ₂ CH ₃ · CH ₄ | 12 12 13 15 | 12 12 | | 12 13 14 18 | 12 13 14 18 | | | 12 13 15 | 15 18 | | | 12 13 14-15 18 |
| ·CHθ HCθθ· HC(θ)θθ· HCHθ | 19 21 | 19 20 21 21 | 19 | 19 21 21 22 | 19 21 21 23 | 20 24 | 20 24 | 20 24 | 21 21 | 18 20 20 21 | 20 24 | 19-20 20 21 22-24 |
| HCθθH CH ₂ (θ·) ₂ ·CH ₂ θθ· CH ₂ (θθ·) ₂ | | 24 24 24 | | | | | | | | 24 | | |
| CH ₃ θ· ·CH ₂ θH ·CH ₂ θθH CH ₃ θθ· | 24 | 24 25 26 | 25 | 25 27 27 | 25 27 27 | 26 27 | 26 27 | 26 27 | 26 27 | 24 26 26 | 25 27 | 25 |
| CH ₂ (θ·)θH ·CH ₂ θθH CH ₂ (θ·)θθH CH ₃ θH | 28 | 26 26 28 28 | | 28 28 | 28 28 | | | | 28 | | | |
| CH ₃ θθH | | | 28 | | | | | | | 28 | | |

- (?) Decomposition
 (*) Disproportionation and/or Recombination
 (§) Miscellaneous reactions

SYNOPSIS TABLE OF CONTENTS
C₂ COMPOUNDS

| REACTING HYDROCARBON SPECIES / ATTACKING MOLECULE OR RADICAL | θ | θ ₂ | θ ₃ | θH | Hθθ· | R· | RH | Rθ· | Rθθ· | (?) DCMP | (*) RCMB | (§) MISC |
|---|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------|----------|------|----------------------|-------------|----------------|
| | CH=C· CH=CH· CH ₂ CH· CH ₂ =CH ₂ | 29 29 30 30 | 29 29 30 31 | 29 29 30 31 | 29 29 30 31 | 31 31 31 31 | | | | | | |
| CH ₃ CH ₂ · CH ₃ CH ₃ ·CH=C=θ CH ₂ =C=θ | 32 32 34 34 | 32 33 34 34 | 32 33 34 34 | 32 33 34 34 | 34 34 34 34 | | | 32 34 | 34 | | | 32 34 34 |
| CHθCHθ CH ₂ =CH(θ·) or ·CH ₂ CHθ CH ₃ C(θ)· CH ₃ Cθθ· | | 34 35 35 | | | 34 | | 35 35 | | | 35 35 35 | 35 | 35 |
| ·θCH ₂ CHθ CH ₃ C(θ)θθ· CH ₃ CHθ CH ₃ CH(θ·) ₂ | 36 | 36 37 | 36 | 36 | 35 36 | 35 37 | | 37 | | 35 35 36 | 36 | 36 37 |
| CH ₃ CH(·)θθ· CH ₃ C(θ)θθH CH ₃ CH(θθ·) ₂ CH ₃ CH ₂ θ· | | 37 37 | | | | | 38 | 38 | | 37 37 37 | | |
| CH ₃ θCH ₂ · CH ₃ CH(·)θH CH ₃ θθCH ₂ · CH ₃ θCH ₂ θ· | | 37 37 38 38 | | 37 | | | | | | 38 38 | 37 | |
| CH ₃ CH(·)θθH CH ₃ CH(θ·)θH CH ₃ CH ₂ θθ· ·CH ₂ CH ₂ θθH | | 38 38 38 | | | 39 | 39 | | 39 | | 38 38 38 38 | | |

- (?) Decomposition
 (*) Disproportionation and/or Recombination
 (§) Miscellaneous reactions

SYNOPTIC TABLE OF CONTENTS
C₂ COMPOUNDS Cont'd.

| ATTACKING MOLECULE OR RADICAL REACTING HYDROCARBON SPECIES | σ | σ_2 | σ_3 | σ_H | H $\sigma\sigma\cdot$ | R \cdot | RH | R $\sigma\cdot$ | R $\sigma\sigma\cdot$ | (?) DCMP | (*) RCMB | (S) MISC |
|--|----------|------------|------------|------------|-----------------------|-----------|----|-----------------|-----------------------|----------------------|-------------|-------------|
| CH ₃ $\sigma\sigma$ CH ₂ $\sigma\cdot$ CH ₃ CH($\sigma\cdot$) $\sigma\sigma$ H CH ₃ σ CH ₂ $\sigma\sigma\cdot$ $\cdot\sigma\sigma$ CH ₂ CH ₂ $\sigma\sigma$ H | | 39 39 | | | | 39 | | | 39 | 39 | | |
| CH ₃ σ CH ₃ CH ₃ CH ₂ σ H CH ₃ $\sigma\sigma$ CH ₃ CH ₃ CH ₂ $\sigma\sigma$ H | 39 40 | 40 | | 40 | | | 40 | | | 39 39 40 40 | | |
| | | | | | | | | | | | | |

(?) Decomposition
 (*) Disproportionation and/or Recombination
 (S) Miscellaneous reactions

SYNOPTIC TABLE OF CONTENTS
C₃ COMPOUNDS

| ATTACKING MOLECULE OR RADICAL REACTING HYDROCARBON SPECIES | θ | θ ₂ | θ ₃ | θ _H | Hθθ· | R· | RH | Rθ· | Rθθ· | (?) DCMP | (*) RCMB | (§) MISC |
|---|----|----------------|----------------|----------------|------|----|----|-----|------|-------------|-------------|-------------|
| CH ₃ C≡CH | 41 | | | 41 | | | | | | | | |
| CH ₂ =C=CH ₂ | 41 | | 41 | 41 | | | | | | | | |
| CH ₂ =CHCH ₂ · | | 41 | | | | | | | | | | |
| CH ₃ CH=CH ₂ | 41 | 41 | 42 | 42 | 42 | | | | | | | |
| CH ₃ CH ₂ CH ₂ · or (CH ₃) ₂ CH· | | 42 | | 43 | | | | | 43 | | | |
| CH ₃ CH ₂ CH ₃ | 43 | 43 | 44 | 44 | 44 | | | | | | | |
| CH ₂ =CHCHθ | 44 | | 44 | | | | | | | | | |
| CH ₃ CH ₂ C(θ)· | | 45 | | | | | | | | 44 | | |
| CH ₂ =CHCH ₂ θ· | | 44 | | | | | | | | | | |
| CH ₃ CH=CH ₂ θθ· | | | | | | | | | | 45 | | |
| CH ₃ C(θ)CH ₂ θ· | | | | | | | | | | 45 | | |
| CH ₃ CH ₂ Cθθ· | | | | | | | | | | 45 | | |
| CH ₃ CH(θ·)CHθ | | | | | | | | | | 45 | | |
| (CH ₃) ₂ Cθ | | 45 | | | | 45 | | | | 45 | | |
| CH ₃ CH(·)CH ₂ θ· | | | | | | | | | | 45 | | |
| (CH ₃) ₂ C(θ·) ₂ | | | | | | | | | | 46 | | |
| CH ₃ CH ₂ CHθ | 45 | 45 | | 45 | 45 | 45 | | | | | | |
| ·CH ₂ CH ₂ CH ₂ θ· | | 45 | | | | | | | | | | |
| (CH ₃) ₂ C(·)θθ· | | 46 | | | | | | | | | | |
| CH ₃ CH(θ·)CH ₂ θθ· | | | | | | | | | | 46 | | |
| CH ₃ CH(θθ·)CH ₂ θ· | | | | | | | | | | 46 | | |
| (CH ₃) ₂ C(θθ·) ₂ | | | | | | | | | | 46 | | |
| CH ₃ CH ₂ CH ₂ θ· | | 46 | | | | | | | | 46 | | |
| or (CH ₃) ₂ CHθ· | | | | | | | | | | 46 | | |
| CH ₃ CH(·)CH ₂ θH | | 46 | | | | | | | | | | |
| CH ₃ CH(θH)CH ₂ · | | 46 | | | | | | | | | | |
| CH ₃ θCH(·)CH ₃ | | 46 | | | | | | | | | | |
| CH ₃ CH(·)CH ₂ θH | | 46 | | | | | | | | | | |

(?) Decomposition
 (*) Disproportionation and/or Recombination
 (§) Miscellaneous reactions

SYNOPTIC TABLE OF CONTENTS
C₃ COMPOUNDS Cont'd.

| ATTACKING MOLECULE OR RADICAL REACTING HYDROCARBON SPECIES | σ | σ ₂ | σ ₃ | σ _H | Hσσ· | R· | RH | Rσ· | Rσσ· | (?) DCMP | (*) RCMB | (S) MISC |
|--|----|----------------|----------------|----------------|----------|----|----|-----|----------|-------------|-------------|-------------|
| (CH ₃) ₂ C(·)σH CH ₃ CH ₂ CH ₂ σ· or (CH ₃) ₂ CHσ· CH ₃ CH ₂ CH ₂ σσ· or (CH ₃) ₂ CHσσ· CH ₃ σσCH(·)CH ₃ | | 46 | | | | | 46 | 46 | | | | |
| CH ₃ CH(σ·)CH ₂ σH (CH ₃) ₂ C(σ·)σH CH ₃ CH(σH)CH ₂ σ· CH ₃ σCH(σ·)CH ₃ | | | | | | | | | | 46 | | |
| CH ₃ σσCH(·)CH ₃ CH ₃ CH(·)CH ₂ σσH CH ₃ CH ₂ CH ₂ σσ· or (CH ₃) ₂ CHσσ· CH ₃ σσCH(σ·)CH ₃ | | 47 | | | | | | 47 | | | | |
| CH ₃ CH(σ·)CH ₂ σσH CH ₃ CH(σσ·)CH ₂ σH CH ₃ CH(σσ·)CH ₂ σσH (CH ₃) ₂ CHσH | 47 | 48 | | | 47 47 | | | | 47 47 | 47 | | |
| CH ₃ CH ₂ CH ₂ σH CH ₃ CH ₂ CH ₂ σσH or (CH ₃) ₂ CHσσH | | 47 | | | | | | | | 48 | | |
| | | | | | | | | | | | | |

(?) Decomposition
(*) Disproportionation and/or Recombination
(S) Miscellaneous reactions

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C₄ COMPOUNDS

| REACTING HYDROCARBON SPECIES | ATTACKING MOLECULE OR RADICAL | | | | | | | | | | (?) DCMP | (*) RCMB | (\$) MISC | |
|--|-------------------------------|----------------------|----------------------|----------------------|----------------------|----|----|-----|------|--|----------------|----------------------|--------------|--|
| | θ | θ ₂ | θ ₃ | θH | Hθθ· | R· | RH | Rθ· | Rθθ· | | | | | |
| CH=CC=CH CH ₂ =CHCH=CH ₂ CH ₂ =C=CHCH ₃ CH ₂ =CHCH=CH ₂ | 49 49 49 | | 49 | | | | | | | | | | | |
| CH ₃ CH=CHCH ₂ · CH ₂ =C(CH ₃)CH ₂ · CH ₃ CH ₂ CH=CH ₂ cis- or trans-CH ₃ CH=CHCH ₃ | | 49 49 49 49 | | | | | | | | | | | | |
| (CH ₃) ₂ C=CH ₂ CH ₃ CH ₂ CH ₂ CH ₂ · or CH ₃ CH ₂ CH(·)CH ₃ (CH ₃) ₂ CHCH ₂ · or (CH ₃) ₃ C· CH ₃ CH ₂ CH ₂ CH ₃ | 50 50 50 52 | 50 51 51 52 | 51 51 51 53 | 51 52 52 53 | 51 51 51 53 | | | | | | | | | |
| (CH ₃) ₃ CH cis- or trans-CH ₃ CH=CHCH ₃ CH ₃ CH ₂ CH ₂ C(θ)· CH ₃ C(θ)CH(·)CH ₃ | 52 52 54 54 | 53 53 54 54 | 53 54 54 54 | 53 53 53 53 | 53 53 53 53 | | | | | | | | | |
| CH ₃ CH=CHCH ₂ θθ· CH ₂ =C(CH ₃)CH ₂ θθ· CH ₃ CH ₂ CH ₂ Cθθ· CH ₃ C(θ)CH(θ·)CH ₃ | | | 54 | | | | | | | | 54 54 54 | | | |
| CH ₃ CH(·)CH(θ·)CH ₃ (CH ₃) ₂ C(·)CH ₂ θ· CH ₃ CH ₂ C(θ)CH ₃ CH ₃ CH(θ·)CH(·)CH ₃ | | | 54 54 | | 54 | | | | | | 54 54 | | | |
| (CH ₃) ₂ C(·)CH ₂ θ· CH ₃ CH ₂ CH ₂ CH ₃ CH ₃ C(θ)θCH ₂ CH ₃ CH ₃ CH(θ·)CH(θθ·)CH ₃ | | 54 55 | | | 54 55 | | | | | | | 55 | | |
| (CH ₃) ₂ C(θ·)CH ₂ (θθ·) (CH ₃) ₂ C(θθ·)CH ₂ θ· CH ₃ CH ₂ θCH ₂ CH ₂ · CH ₃ CH ₂ CH ₂ CH ₂ θ· or CH ₃ CH ₂ CH(θ·)CH ₃ | | | | | | | | | | | | 55 55 55 55 | | |
| | | | | | | | | | | | | | | |

(?) Decomposition
(*) Disproportionation and/or Recombination
(\$) Miscellaneous reactions

SYNOPTIC TABLE OF CONTENTS
C₄ COMPOUNDS Cont'd.

| REACTING HYDROCARBON SPECIES | ATTACKING MOLECULE OR RADICAL | | | | | | | | | | (?) DCMP | (*) RCMB | (\$) MISC | |
|--|-------------------------------|----------------------|----------------|----------------|------|----|----|----------|------|-------|-------------|----------------|--------------|--|
| | σ | σ ₂ | σ ₃ | σ _H | Hσσ· | R· | RH | Rσ· | Rσσ· | Rσσσ· | | | | |
| CH ₃ CH ₂ σCH(·)CH ₃ (CH ₃) ₃ Cσ· CH ₃ CH ₂ CH ₂ CH ₂ σ· CH ₃ CH(σH)CH(·)CH ₃ | | 55 | | | | | 56 | 56 | | | | 55 | 56 | |
| CH ₃ CH ₂ σCH(·)CH ₃ CH ₃ σCH ₂ CH(·)CH ₃ (CH ₃) ₂ C(·)CH ₂ σH (CH ₃) ₂ C(σH)CH ₂ · | | 55 55 55 56 | | | | | | | | | | | | |
| CH ₃ CH ₂ CH(σ·)CH ₃ CH ₃ CH ₂ CH ₂ CH ₂ σσ· or CH ₃ CH ₂ CH(σσ·)CH ₃ CH ₃ CH(σH)CH(σ·)CH ₃ CH ₃ σCH ₂ CH(σ·)CH ₃ | | | | | | | | 56 57 | | | | 56 | | |
| (CH ₃) ₂ C(σ·)CH ₂ σH (CH ₃) ₂ C(σH)CH ₂ σ· CH ₃ CH(·)CH ₂ CH ₂ σσH CH ₃ σσCH ₂ CH(·)CH ₃ | | | | | | | | | | | | 56 56 | | |
| CH ₃ CH(σσH)CH(·)CH ₃ (CH ₃) ₂ C(·)CH ₂ σσH (CH ₃) ₂ CHCH ₂ σσ· or (CH ₃) ₃ Cσσ· CH ₃ CH(σσ·)σCH ₂ CH ₃ | | 56 57 | | | 57 | | 57 | | 57 | | | | 57 | |
| CH ₃ σσCH ₂ CH(σ·)CH ₃ CH ₃ CH(σ·)CH(σσH)CH ₃ (CH ₃) ₂ C(σ·)CH ₂ σσH CH ₃ σCH ₂ CH(σσ·)CH ₃ | | 57 | | | | 57 | | | 57 | | | 57 57 57 | | |
| CH ₃ CH ₂ σCH ₂ CH ₃ CH ₃ CH ₂ CH ₂ CH ₂ σH CH ₃ CH ₂ CH(σH)CH ₃ (CH ₃) ₂ CHCH ₂ σH | | 58 57 57 58 | | | 58 | | | | | | | 57 | | |
| (CH ₃) ₃ CσH CH ₃ CH ₂ σσCH ₂ CH ₃ (CH ₃) ₃ CσσH | | 58 | | | | | | | | | | 58 58 | | |
| | | | | | | | | | | | | | | |

(?) Decomposition
 (*) Disproportionation and/or Recombination
 (\$) Miscellaneous reactions

SYNOPTIC TABLE OF CONTENTS
C₅ COMPOUNDS

| ATTACKING MOLECULE OR RADICAL REACTING HYDROCARBON SPECIES | σ | σ ₂ | σ ₃ | σ _H | Hσσ· | R· | RH | Rσ· | Rσσ· | (?) DCMP | (*) RCMB | (\$) MISC |
|---|----|----------------|----------------|----------------|------|----|----|-----|------|-------------|-------------|--------------|
| CH ₂ =C=C(CH ₃) ₂ | 59 | | | | | | | | | | | |
| CH ₃ CH ₂ CH ₂ CH=CH ₂ | 59 | 59 | 59 | 60 | | | | | | | | |
| cis- or trans-CH ₃ CH ₂ CH=CHCH ₃ | 59 | 59 | 59 | 60 | | | | | | | | |
| (CH ₃) ₂ C=CHCH ₃ | 59 | 59 | 59 | 60 | | | | | | | | |
| CH ₃ CH ₂ C(CH ₃)=CH ₂ | | | 59 | 60 | | | | | | | | |
| (CH ₃) ₂ CHCH=CH ₂ | | | 60 | | | | | | | | | |
| CH ₃ CH ₂ CH ₂ CH(·)CH ₃ | | 60 | | | | | | | | | | |
| (CH ₃) ₂ CHCH ₂ CH ₂ · | | 60 | | | | | | | | | | |
| or (CH ₃) ₂ CHCH(·)CH ₃ | | | | | | | | | | | | |
| or (CH ₃) ₂ C(·)CH ₂ CH ₃ | | | | | | | | | | | | |
| (CH ₃) ₃ CCH ₂ · | | 60 | | 60 | | | | | | | | |
| CH ₃ CH ₂ CH ₂ CH ₂ CH ₃ | 60 | 60 | | 61 | 61 | | | | | | | |
| (CH ₃) ₂ CHCH ₂ CH ₃ | 60 | 61 | | | | | | | | | | |
| (CH ₃) ₄ C | 60 | 61 | | 61 | | | | | | | | |
| CH ₃ CH ₂ C(σ)CH ₂ CH ₃ | | 61 | | | | | | | | | | |
| (CH ₃) ₃ CCHσ | | 61 | | | | | | | 61 | | | |
| CH ₃ CH=CH(σσH)CH ₃ | | | | | | | | | | 62 | | |
| (CH ₃) ₂ C(σ·)CH ₂ CH ₃ | | | | | | | | | | 62 | | |
| (CH ₃) ₃ CCH ₂ σ· | | | | | | | 62 | | | 62 | | |
| (CH ₃) ₂ C(·)CH ₂ σCH ₃ | | 62 | | | | | | | | | | |
| CH ₃ σCH(CH ₃)CH(·)CH ₃ | | 62 | | | | | | | | | | |
| (CH ₃) ₂ C(σ·)CH ₂ CH ₃ | | | | | | | 62 | | | | | |
| CH ₃ CH ₂ CH ₂ CH(σσ·)CH ₃ | | | | | | | | | | 62 | | |
| or CH ₃ CH ₂ CH(σσ·)CH ₂ CH ₃ | | | | | | | | | | | | |
| (CH ₃) ₂ C(σ·)CH ₂ σCH ₃ | | | | | | | | | | 62 | | |
| CH ₃ σCH(CH ₃)CH(σ·)CH ₃ | | | | | | | | | | 62 | | |
| ·CH ₂ C(CH ₃) ₂ CH ₂ σσH | | 62 | | | | | | | | 62 | | |
| (CH ₃) ₃ CCH ₂ σσ· | | | | | | | | | | 62 | | |
| CH ₃ CH(·)CH ₂ CH(σσH)CH ₃ | | 62 | | | | | | | | | | |
| CH ₃ σσCH(CH ₃)CH(·)CH ₃ | | 62 | | | | | | | | | | |
| (CH ₃) ₂ C(·)CH ₂ σσCH ₃ | | 63 | | | | | | | | | | |

(?) Decomposition
 (*) Disproportionation and/or Recombination
 (\$) Miscellaneous reactions

SYNOPTIC TABLE OF CONTENTS
C₅ COMPOUNDS Cont'd.

| ATTACKING MOLECULE OR RADICAL REACTING HYDROCARBON SPECIES | σ | σ ₂ | σ ₃ | σ _H | Hσσ· | R· | RH | Rσ· | Rσσ· | (?) DCMP | (*) RCMB | (\$) MISC |
|--|--|----------------|----------------|----------------|------|----|----|----------|------|----------------|-------------|--------------|
| | $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}(\sigma\sigma\cdot)\text{CH}_3$ $(\text{CH}_3)_2\text{CHCH}_2\text{CH}_2\sigma\sigma\cdot$ or $(\text{CH}_3)_2\text{CHCH}(\sigma\sigma\cdot)\text{CH}_3$ or $(\text{CH}_3)_2\text{C}(\sigma\sigma\cdot)\text{CH}_2\text{CH}_3$ $(\text{CH}_3)_3\text{CCH}_2\sigma\sigma\cdot$ $\text{CH}_3\sigma\sigma\text{CH}(\text{CH}_3)\text{CH}(\sigma\cdot)\text{CH}_3$ | | | | | | | 63 63 | | 63 | | |
| $(\text{CH}_3)_2\text{C}(\sigma\cdot)\text{CH}_2\sigma\sigma\text{CH}_3$ $(\text{CH}_3)_3\text{C}\sigma\sigma\text{CH}_3$ $(\text{CH}_3)_3\text{CCH}_2\sigma\sigma\text{H}$ $(\text{CH}_3)_2\text{C}(\sigma\sigma\text{H})\text{CH}_2\text{CH}_3$ | | | | | | | | | | 63 63 63 | | 63 |
| | | | | | | | | | | | | |

- (?) Decomposition
- (*) Disproportionation and/or Recombination
- (\$) Miscellaneous reactions

SYNOPTIC TABLE OF CONTENTS
C₆ COMPOUNDS

| ATTACKING MOLECULE OR RADICAL | REACTING HYDROCARBON SPECIES | | | | | | | | | | (?) | (*) | (S) |
|---|------------------------------|----------------|----------------|----|------|----|----------|-----|------|----------------|------|------|-----|
| | θ | θ ₂ | θ ₃ | θH | Hθθ· | R· | RH | Rθ· | Rθθ· | DCMP | RCMB | MISC | |
| CH ₃ CH=C(CH ₃) ₂ CH ₂ =CHCH ₂ CH ₂ CH=CH ₂ CH ₃ CH ₂ CH ₂ CH ₂ CH=CH ₂ (CH ₃) ₂ C=C(CH ₃) ₂ | 64 | | | | | | | | | | | | |
| 64 64 64 | | 64 64 | 64 65 | 65 | | | | | | | | | |
| cis- or trans-CH ₃ CH ₂ CH ₂ CH=CHCH ₃ CH ₃ CH ₂ CH ₂ C(CH ₃)=CH ₂ (CH ₃) ₂ CHCH ₂ CH=CH ₂ cis- or trans-(CH ₃) ₂ CHCH=CHCH ₃ | | 64 | 64 | | | | | | | | | | |
| 64 64 64 64 | | | | | | | | | | | | | |
| cis- or trans-CH ₃ CH ₂ C(CH ₃)=CHCH ₃ CH ₃ CH ₂ CH(CH ₃)CH=CH ₂ CH ₃ CH ₂ CH ₂ C·(CH ₃) ₂ (CH ₃) ₂ CHC·(CH ₃) ₂ or (CH ₃) ₂ CHCH(CH ₃)CH ₂ · | | | 65 | | | | | | | | | | |
| 65 65 65 65 | | | | | | | | | | | | | |
| CH ₃ (CH ₂) ₄ CH ₃ (CH ₃) ₂ CHCH ₂ CH ₂ CH ₃ (CH ₃) ₂ CHCH(CH ₃) ₂ (CH ₃ CH ₂) ₂ CHCH ₃ | 65 | 65 | 66 | | | | | | | | | | |
| 65 66 66 | | | | 66 | | | | | | | | | |
| (CH ₃) ₃ CCH ₂ CH ₃ CH ₃ CH ₂ CH ₂ C(CH ₃) ₂ θ· (CH ₃) ₂ CHC(CH ₃) ₂ θ· (CH ₃) ₃ CC·(CH ₃)θH | | 66 | | | | | | | | 66 66 | | | |
| 66 | | | | | | | 66 | | | | | | |
| CH ₃ CH ₂ CH ₂ CH ₂ CH(θθ·)CH ₃ or CH ₃ CH ₂ CH ₂ CH(θθ·)CH ₂ CH ₃ CH ₃ CH ₂ CH ₂ C(CH ₃) ₂ θθ· (CH ₃) ₂ CHC(CH ₃) ₂ θθ· CH ₃ CH(θθH)CH ₂ CH·(CH ₂ CH ₃) | | | | | | | 66 67 | | | 66 67 67 | | | |
| 67 67 67 | | | | | | | | | | | | | |
| (CH ₃) ₂ C(θθH)C·(CH ₃) ₂ or (CH ₃) ₂ C(θθH)CH(CH ₃)CH ₂ · (CH ₃) ₂ CHθCH(CH ₃) ₂ (CH ₃) ₂ C(θθH)CH ₂ CH ₂ CH ₃ (CH ₃) ₂ C(θθH)CH(CH ₃) ₂ | | | 67 | | | | | | | 67 67 67 | | | |
| 67 | | | | | | | | | | | | | |
| CH ₃ CH ₂ CH ₂ θθCH ₂ CH ₂ CH ₃ (CH ₃) ₂ CHθθCH(CH ₃) ₂ | | | 67 | | | | | | | 67 | | | |
| 67 | | | | | | | | | | | | | |

- (?) Decomposition
(*) Disproportionation and/or Recombination
(S) Miscellaneous reactions

SYNOPTIC TABLE OF CONTENTS
C₇ COMPOUNDS

| ATTACKING MOLECULE OR RADICAL | REACTING HYDROCARBON SPECIES | | σ | σ ₂ | σ ₃ | σ _H | Hσσ· | R· | RH | Rσ· | Rσσ· | (?) DCMP | (*) RCMB | (§) MISC |
|----------------------------------|---|----|----|----------------|----------------|----------------|------|----|----|-----|------|-------------|-------------|-------------|
| | CH ₃ (CH ₂) ₄ CH=CH ₂ cis- or trans-CH ₃ CH ₂ CH=CHCH ₂ CH ₂ CH ₃ CH ₃ (CH ₂) ₄ CH(:)CH ₃ (CH ₃) ₃ CCH(CH ₃)CH ₂ · or ·CH ₂ C(CH ₃) ₂ CH(CH ₃) ₂ or (CH ₃) ₃ CC(·)(CH ₃) ₂ | | 68 | 68 | 68 | | | | | | | | | |
| | CH ₃ (CH ₂) ₅ CH ₃ CH ₃ CH ₂ CH(CH ₃)CH ₂ CH ₂ CH ₃ (CH ₃) ₃ CCH ₂ CH ₂ CH ₃ (CH ₃) ₂ CHCH ₂ CH(CH ₃) ₂ | 68 | 68 | | 69 | 69 | | | | | | | | |
| | (CH ₃ CH ₂) ₃ CH (CH ₃) ₃ CCH(CH ₃) ₂ CH ₃ (CH ₂) ₅ CHσ CH ₃ (CH ₂) ₄ CH(σσ·)CH ₃ | | 69 | | 69 | | | | | | | 69 | | |
| | | | | | | | | | | | | | | |

(?) Decomposition
 (*) Disproportionation and/or Recombination
 (§) Miscellaneous reactions

SYNOPTIC TABLE OF CONTENTS
C₈ COMPOUNDS

| ATTACKING MOLECULE OR RADICAL | REACTING HYDROCARBON SPECIES | | σ | σ ₂ | σ ₃ | σ _H | σ _{σσ} | R· | RH | Rσ· | Rσσ· | (?) DCMP | (*) RCMB | (\$) MISC |
|----------------------------------|--|--|---|----------------------|----------------|----------------|-----------------|----|----|-----|------|-------------|-------------|--------------|
| | (CH ₃) ₂ C=CHCH=C(CH ₃) ₂ CH ₃ (CH ₂) ₅ CH=CH ₂ (CH ₃) ₂ CHCH=CHCH(CH ₃) ₂ CH ₃ (CH ₂) ₆ CH ₂ · or CH ₃ (CH ₂) ₅ CH(·)CH ₃ or CH ₃ (CH ₂) ₄ CH(·)CH ₂ CH ₃ or CH ₃ (CH ₂) ₃ CH(·)(CH ₂) ₂ CH ₃ | | | 70 70 70 | | 70 | | | | | | | | |
| | (CH ₃) ₃ CCH ₂ CH(CH ₃)CH ₂ · or (CH ₃) ₃ CCH ₂ C(·)(CH ₃) ₂ or (CH ₃) ₂ CCH(·)CH(CH ₃) ₂ or :CH ₂ C(CH ₃) ₂ CH ₂ CH(CH ₃) ₂ (CH ₃) ₃ CC(CH ₃) ₂ CH ₂ · CH ₃ (CH ₂) ₆ CH ₃ CH ₃ (CH ₂) ₃ CH(CH ₃)CH ₂ CH ₃ | | | | | 70 70 | | | | | | | | |
| | (CH ₃) ₂ CHCH ₂ CH ₂ CH(CH ₃) ₂ (CH ₃) ₃ CCH ₂ CH(CH ₃) ₂ (CH ₃) ₂ CHCH(CH ₃)CH(CH ₃) ₂ (CH ₃) ₃ CC(CH ₃) ₃ | | | 71 70 70 70 | | | 70 71 | | | | | | | |
| | (CH ₃) ₃ CCH ₂ C(CH ₃) ₂ σσH (CH ₃) ₃ CσσC(CH ₃) ₃ | | | | 71 | | | | | | | 71 71 | | |

- (?) Decomposition
 (*) Disproportionation and/or Recombination
 (\$) Miscellaneous reactions

SYNOPTIC TABLE OF CONTENTS
C₉ COMPOUNDS

| REACTING HYDROCARBON SPECIES | ATTACKING MOLECULE OR RADICAL | | | | | | | | | | | |
|---|-------------------------------|----------------|----------------|----------------|------|----|----|-----|------|----------|----------|-----------|
| | σ | σ ₂ | σ ₃ | σ _H | Hσσ· | R· | RH | Rσ· | Rσσ· | (?) DCMP | (*) RCMB | (\$) MISC |
| CH ₃ (CH ₂) ₆ CH=CH ₂ | | 72 | | | | | | | | | | |
| CH ₃ (CH ₃) ₇ CH ₃ | | 72 | | | | | | | | | | |
| (CH ₃) ₂ CH(CH ₂) ₅ CH ₃ | | 72 | | | | | | | | | | |
| CH ₃ CH ₂ CH(CH ₃)CH ₂ (CH ₂) ₃ CH ₃ | | 72 | | | | | | | | | | |
| CH ₃ (CH ₂) ₂ CH(CH ₃)CH ₂ (CH ₂) ₂ CH ₃ | | 72 | | | | | | | | | | |
| (CH ₃) ₃ CCH ₂ CH ₂ CH(CH ₃) ₂ | | 72 | | | | | | | | | | |
| (CH ₃ CH ₂) ₂ CH(CH ₂) ₃ CH ₃ | | 72 | | | | | | | | | | |
| (CH ₃ CH ₂ CH ₂) ₂ CHCH ₂ CH ₃ | | 72 | | | | | | | | | | |

C₁₀ COMPOUNDS

| | | | | | | | | | | | | |
|---|--|----|----|--|--|--|--|--|--|----|--|--|
| CH ₃ (CH ₂) ₇ CH=CH ₂ | | 73 | 73 | | | | | | | | | |
| CH ₃ (CH ₂) ₈ CH ₃ | | 73 | | | | | | | | | | |
| (CH ₃) ₂ CH(CH ₂) ₄ CH(CH ₃) ₂ | | 73 | | | | | | | | | | |
| CH ₃ (CH ₂) ₄ σσ(CH ₂) ₄ CH ₃ | | | | | | | | | | 73 | | |
| (CH ₃) ₂ C(CH ₂ CH ₃)σσ(CH ₃ CH ₂)C(CH ₃) ₂ | | | | | | | | | | 73 | | |

- (?) Decomposition
 (*) Disproportionation and/or Recombination
 (\$) Miscellaneous reactions

CHEMICAL KINETICS OF THE GAS PHASE COMBUSTION OF FUELS

[A bibliography on the rates and mechanisms of oxidation of aliphatic C₁ to C₁₀ hydrocarbons and of their oxygenated derivatives]

FRANCIS WESTLEY

A reaction oriented list of references is provided for papers and reports containing rate data for gas phase reactions of combustion and oxidation of aliphatic saturated or unsaturated C₁ to C₁₀ hydrocarbons, alcohols, aldehydes, ketones, ethers, peroxides and their free radicals. The list also includes decomposition, disproportionation, atom transfer and recombination reactions of the oxygen containing species noted above. Pyrolytic reactions of hydrocarbons and their radicals are excluded. All the processes listed here have been reported to occur in the gas phase combustion of fuels. In addition, a list of critical reviews dealing with the reaction kinetics of the above processes and a list of papers dealing with generalized mechanisms of the same reactions are also included. More than 800 papers covering 540 reactions are listed. The period covered extends from 1902 through June 1975.

Keywords: Bibliography; chemical kinetics; combustion; free radicals; gas phase; hydrocarbons; oxidation; oxygen; oxygenated organic compounds; ozone.

INTRODUCTION

This bibliography lists papers and reports on the reaction kinetics of oxidation and combustion of aliphatic C₁ to C₁₀ hydrocarbons, their oxygenated derivatives, and their free radicals. In addition, the reactions of decomposition, disproportionation, or recombination of the oxygenated molecules or free radicals are included. The material is presented in two ways: 1). by reaction, listing each pertinent article, and 2). a general reference list, arranged alphabetically by first author.

The articles have been selected from the files of the Chemical Kinetics Information Center. The criterion for inclusion of an article is that there must be some new information on the reaction. That is, simple quotations of the published results of others and *ad hoc* guesses have been excluded. There are gray areas, such as the statement of a rate calculated from that of the reverse reaction and the equilibrium constant, or mechanistic information. If the information seemed to be important the reference was included.

The reactions listed here are those reported in the papers. There has been no attempt to reinterpret the data. This becomes important because many of the elementary reactions listed are postulated steps in mechanisms used to interpret complex experimental phenomena. Various authors use different mechanisms; the fashion changes with time.

The reaction kinetics study of hydrocarbon combustion has occupied chemists since the early years of the 20th century. The paper published by Bone and Wheeler in 1902 under the title: "The Slow Oxidation of Methane at Low Temperature," was probably the first attempt to study the kinetics of hydrocarbon combustion¹). A more concerted effort in that direction was undertaken by Hinshelwood and co-workers who, in 1929, studied the oxidation kinetics of ethylene²), and one year later, the simultaneous oxidation of methane, methanol, and formaldehyde³).

The important contributions made by Norrish over a period of more than 30 years, from the nineteen thirties into the sixties, gave great impetus to the study of hydrocarbon oxidation kinetics. In 1934, in a paper studying the reaction of methane and oxygen sensitized by nitrogen dioxide, he showed for the first time that this reaction is based on a chain mechanism⁴). In the following years Norrish extended the oxidation studies to ethane and ethylene and, on the basis of the same chain mechanism, developed a theory of the combustion of hydrocarbons⁵), expanded it to include

the phenomenon of degenerate branching^{6,7}), investigated the effect of surfaces and catalysts on the hydrocarbon oxidation^{7,8}), proposed a generalized mechanism and reaction kinetics for the oxidation of hydrocarbons^{9,12,14}), used conventional¹⁰), flash photolysis and kinetic spectroscopy¹³) techniques to investigate the oxidation and combustion of formaldehyde¹⁵), studied the effect of light on the combustion of hydrocarbons^{11,13}) and suggested a detailed free-radical mechanism for the gas phase oxidation of n-butenes¹⁴).

During the nineteen fifties and sixties, as well as in more recent years, studies on the reaction kinetics of hydrocarbon combustion and oxidation have been carried on all over the world. Nowadays the interest in kinetics of hydrocarbon combustion is continuing and, as a result of the world energy crisis, has increased considerably.

For these reasons the editor hopes that this bibliography, by summing up what has been done in the field of C₁ to C₁₀ hydrocarbon combustion and oxidation kinetics, will make it possible to establish-by difference-what remains to be done in this field, so important for the use of energy from fossil fuels. In fact, a cursory examination of the synoptic tables of contents (pages v-xvii of this bibliography) indicates that, while methane and ethane combustion reactions have been thoroughly studied, the elementary steps taking place in the combustion of C₃ to C₆ hydrocarbons have been less thoroughly investigated. For the C₇ and higher hydrocarbons the information is meager and much remains to be done.

The number of elementary reactions that might occur in the oxidation of hydrocarbons is very large. Engleman has estimated that well over 1000 have to be considered in the combustion of methane in air¹⁶). A rough but probably conservative guess for the C₁ to C₁₀ hydrocarbon set is more than 10,000 reactions. In contrast, measurements on approximately 540 processes are covered in this bibliography. To what extent and how this gap can be closed should be of concern to combustion kineticists.

There is a closely related field that is not covered in this bibliography: the non-oxidative pyrolysis of hydrocarbons. Allara¹⁷) has estimated that the elementary processes occurring in the pyrolysis of a hydrocarbon are of the order of thousands. The reader interested in this subject should consult the excellent report of Allara and the book of tables published by Benson and Neal¹⁸).

It is believed that this bibliography provides extensive coverage of the available experimental work on the kinetics of hydrocarbon oxidation. The 806 references indexed here span all stages of kinetics studies related to combustion. But no claim is made that this bibliography is all-inclusive. Our past experience in the preparation of bibliographies^{19,20,21,22}) covering the entire time span of kinetics research, seventy years or more, has taught us that it is virtually impossible to identify and obtain every paper or to summarize correctly every paper that has been retrieved. The author will welcome suggestions for additions and corrections of errors and thanks the contributors in advance.

This bibliography is not the result of the effort of a single person, but of the whole staff of Chemical Kinetics Information Center. My thanks to all of them.

In particular, I wish to thank Dr. David Garvin, Chief of the Chemical Process Data Evaluation Section and Director of the Center, and Dr. Robert F. Hampson for their more than helpful suggestions and constant guidance; Dr. William H. Evans for his thorough editing and proofreading of the manuscript; Mr James G. Koch, Supervisor, for tracking down and obtaining papers and reports very difficult to obtain; Mrs. Geraldine Zumwalt and Miss Darlene Connelly, for typing a difficult manuscript with particular care.

Guidelines for the user

Arrangement of the report. This bibliography is in three parts:

Part I. Synoptic Tables of Reactions

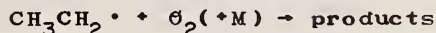
Part II. Reactions of Aliphatic Hydrocarbon Combustion and Oxidation with citations

Part III. The bibliography for part II, arranged alphabetically by authors. The complete reference citation for each article mentioned is given here. Occasionally explanatory notes are appended. These establish the "bibliography chain" for closely related papers by the same author.

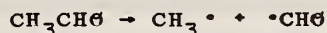
Parts I and II are arranged by reaction, following the order indicated below. A list of critical reviews or surveys and a list of papers dealing with generalized mechanisms and reaction kinetics are included at the end of part II.

Use of the synoptic tables of reactions. Part I is simply a table of contents arranged for quick location of the number of the page on which a certain reaction can be found. The 540 reactions listed in part II are condensed and grouped in the 10 synoptic tables of part I according to the number of carbon atoms of the reacting organic species (hydrocarbon or oxygenated derivative). Column 1 of each synoptic table lists the reacting organic species in the same order as in part II of the bibliography. The headings of columns 2 to 10 indicate the reaction partner or atom, molecule or radical, in the order θ , θ_2 , θ_3 , θH , $H\theta\theta^\cdot$, R^\cdot , RH , $R\theta^\cdot$, $R\theta\theta^\cdot$, where R may be any aliphatic alkyl group. Columns 11 and 12, respectively, indicate decomposition, and disproportionation or recombination of the species listed in column 1. Column 13 indicates a process that cannot fit in any of the preceding columns. Only a small number of such processes are included in the bibliography.

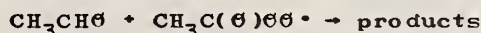
The following examples show how to use the synoptic tables:



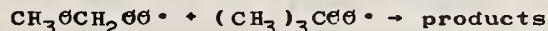
Since the synoptic tables do not indicate the presence or absence of a third body, the above letter M is omitted. The reaction is found in the C_2 Hydrocarbons table at the page number indicated by intersection of the horizontal line corresponding to $CH_3CH_2^\cdot$ with column 3 (Heading θ_2). The page number found in that way is 32:



This reaction is found in the C_2 Hydrocarbon table at the page number indicated by intersection of the horizontal line corresponding to $CH_3CH\theta$ with column 11 (decomposition). The corresponding page number is 36.



The page number for this reaction is found in the C_2 Table at the intersection of $CH_3CH\theta$ horizontal line with column 13 (miscellaneous reactions). The page number is 37. This reaction is one of the few reactions which can be found in two different places of the Synoptic tables. Interchanging the two reactants gives: $CH_3C(\theta)\theta\theta^\cdot + CH_3CH\theta \rightarrow \text{products}$. Thus, at the intersection of the $CH_3C(\theta)\theta\theta^\cdot$ horizontal line with column 13 (miscellaneous reactions) the same page number is found.



The two peroxy radicals, $CH_3\theta CH_2\theta\theta^\cdot$ and $(CH_3)_3C\theta\theta^\cdot$, are not listed among the headings indicating the attacking species, but the general peroxy radical $R\theta\theta^\cdot$ is the heading of column 10. Therefore, the page number of this reaction is found in table II at the intersection of the $CH_3\theta CH_2\theta\theta^\cdot$ horizontal line with column 10 ($R\theta\theta^\cdot$). The page number is 39.

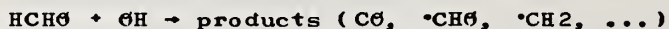
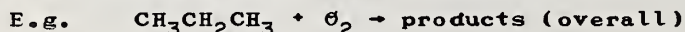
If the reactants for a reaction cannot be located in any line or column of any Table, it means that the reaction is not included in the bibliography.

Ordering of chemical reactions. Parts I and II of this bibliography list unimolecular, bimolecular, and termolecular reactions occurring in

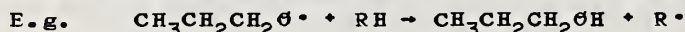
combustion and oxidation of aliphatic C₁ to C₁₀ hydrocarbons and unimolecular reactions of their oxygenated derivatives.

The largest group of reactions listed in Parts I and II consists of bimolecular reactions. In most of these processes the reaction takes place between a reacting hydrocarbon molecule (or radical) and an attacking species, which might be either an oxygen species (O, O₂, O₃) or an oxidizing radical (OH, HO₂·, RO·, RO₂·). The only unoxidized attacking group, the radical R·, appears in reactions with oxygenated species.

The reacting hydrocarbon molecule or radical is displayed first, being followed by the attacking species:

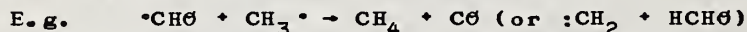


One exception to this rule is the case of a reacting species designated by a general symbol, as RH, (where RH is any aliphatic hydrocarbon), while the attacking species is a specific oxygenated hydrocarbon radical. Since the number of carbon atoms of the reacting hydrocarbon RH cannot be determined, while that of the attacking radical can, the order of the two species is reversed and the oxygenated radical is displayed first.



Likewise in the synoptic tables, the general aliphatic hydrocarbon RH appears as the heading of column 8, while the specific oxygenated radical is listed in column 1.

There is also the case of a bimolecular reaction where either species may be regarded as the attacking one.



In such a case the reaction is listed a second time with the two species in reversed order:



(In this case, it is more correct to say that the two reactants are interacting species, rather than naming these respectively reactant and attacking species.)

The general rule for ordering the reactions listed in this bibliography is the standard order of arrangement as described in NBS Technical Note 270-3 pp. 5, 6, and 22²³).

Thus, Part II of this bibliography is divided into 10 sub-groups, C₁ to C₁₀ according to the number of C atoms of the first reactant displayed at the left of each reaction, which is always an aliphatic species. Each subgroup of Part II corresponds to one of the synoptic C₁ to C₁₀ tables included in Part I. In each of these subgroups, the reactions with first reactants including only C and H atoms are displayed first according to the increasing number of H atoms. Thus, in the C₁ subgroup the order of the first reactants, at the left of each reaction, is: CH, :CH₂, CH₃·, CH₄·.

Likewise, in the C₂ subgroup the order of the first reactants is: CH=C·, CH=CH, CH₂=CH·, CH₂CH₂, CH₃CH₂·, CH₃CH₃.

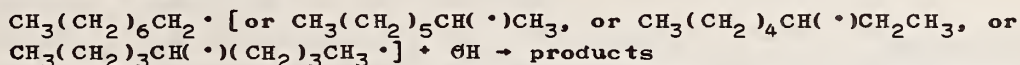
Following the reactions whose first reactants include only C and H atoms are listed the reactions whose first reactants include O atoms, in additions to C and H. The order is first by increasing number of H atoms, then, if two species have the same number of H atoms, by increasing number of O atoms.

Reactions in which the same species reacts with different molecules or radicals are arranged in a sequence depending on these molecules or radicals. According to the above mentioned standard order of arrangement²³), oxygen takes preference over hydrogen, and hydrogen takes preference over carbon. Therefore the sequence of the second species is O, O₂, O₃, H, H₂, OH, HO₂·.

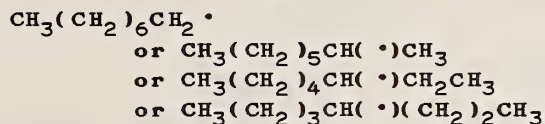
oxygenated species ($\cdot\text{CH}\theta$, $\text{HC}\theta\theta\cdot$, $\text{HCH}\theta$, $\text{CH}_3\theta\cdot$). Generalized hydrocarbon species ($\text{R}\cdot$, RH , $\text{R}\theta\cdot$, $\text{R}\theta\theta\cdot$) are last. (R represents any alkyl radical).

Decomposition reactions of a single compound precede the reactions of the same compound with other species. The generalized second (or third) body M, always in parentheses, is disregarded when placing a reaction in its proper sequence.

Reactions of isomeric compounds with the same reactant are listed one after another. No attempt was made to establish a rule for ordering these reactions. When isomeric hydrocarbon radicals occur during the combustion of the parent hydrocarbon, the reactions of these radicals are condensed into a unique reaction. For instance, in the combustion of n-octane, one primary and three secondary n-octyl free radicals are formed; their reactions with θH are listed as follows:

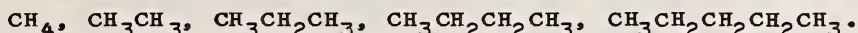


These n-octyl free radicals are listed in the column of C_8 Synoptic Table in Part I, as follows:

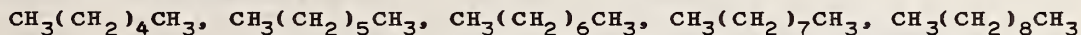


Display of Chemical Reactions and Formulae

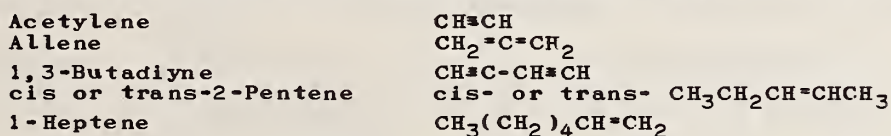
Straight chain hydrocarbons. All saturated normal hydrocarbons, up to, and including n-pentane, are written in the usual way, showing separately each methyl and methylene group in the chain:



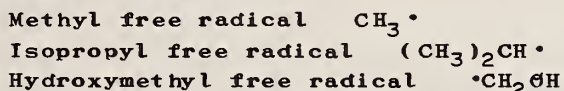
The higher hydrocarbons, from n-hexane to n-decane, are written in a more condensed form to facilitate the counting of the number of methylene groups in the chain:



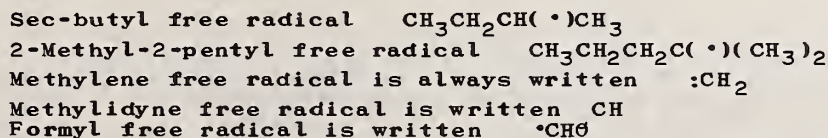
The unsaturated hydrocarbons are written so as to show the position of each double or triple bond in the molecule. E.g.:



Alkyl radicals. The unpaired electron of each alkyl radical is always indicated. E.g.:



If the unpaired electron of an alkyl radical belongs to a carbon atom in the middle of the chain, it is indicated inside a parenthesis following the carbon atom. E.g.:



Oxy-free-radicals. If the oxygen atom of an oxy radical is attached to the terminal C atom, the radical is written in the usual manner: $\text{CH}_3\theta\cdot$. If the oxygen atom of the oxy radical is attached to a C atom in the middle

of the chain, then the oxygen atom, together with the unpaired electron are inside a parenthesis following the C atom: $(\text{CH}_3)_2\text{C}(\dot{\text{O}})\text{CH}_2\text{CH}_3$.

If a dioxy diradical has the two oxygen atoms attached to the same carbon, it is written: $\text{CH}_2(\dot{\text{O}})_2$.

Peroxo-free-radicals. The rules for writing peroxo free radicals are the same as for the oxy-free-radicals: $\text{CH}_3\dot{\text{O}}\dot{\text{O}}\cdot$, $\text{CH}_3\dot{\text{O}}\text{CH}_2\text{CH}(\dot{\text{O}}\dot{\text{O}}\cdot)\text{CH}_3$, and $\text{CH}_2(\dot{\text{O}}\dot{\text{O}}\cdot)_2$.

Inorganic free radicals.

Oxygen atom is written $\dot{\text{O}}$

Hydroxyl free radical is written $\dot{\text{O}}\text{H}$

Hydroperoxo free radical is written $\text{H}\dot{\text{O}}\dot{\text{O}}\cdot$

Reference Citation

The citations under each reaction list the author(s) and the sources, in the following form:

| Author(s) | Source-Year-Volume-Page | Number of Author(s) |
|--------------------|-------------------------|---------------------|
| Niki, H. | JCPA6-1966-45-2330 | 1 |
| Niki and Weinstock | JCPA6-1966-45-3468 | 2 |
| Niki, et al. | JCPA6-1968-48-5729 | 3 or more |

Variations from this format (which we will call "short reference") are usually in the direction of more explicit specification. These variations are never made in the first two fields, source and year. These are fixed and always present.

The sources are indicated by their ASTM CODEN abbreviations*). A guide to these codes follows. As listed in this guide, the codes include an additional sixth cipher, which is a "check character"**.

*) Blumentahl, J. G., Karaman, M., and Peters, A., Editors, "CODEN FOR PERIODICAL TITLES" (Including Non-Periodical Titles and Deleted Coden), Vol. I and II, ASTM Data Series DS 23B, (1970); First Supplement DS 23B - S1 (05-023021-42) (1972); Second Supplement DS 23B - S2 (05-023022-42) (1974); (American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa. 19203). "Chemical Abstracts Service Source Index (CASSI), 1907-1974 Cumulative" (Chemical Abstract Service, Columbus, OH 43210); Annual Cumulative Supplement, 1975.

**) The final sixth character in the journal coden is a "check character". This is not shown in the listings in ASTM DS 23B, DS 23B-S1 and DS 23B-S2. The sixth character is given in CASSI.

JOURNAL AND REPORT CODEN IDENTIFICATIONS

| | |
|--------|--|
| ACASA2 | Acta Chimica Academiae Scientiarum Hungaricae |
| ACM0AG | American Chemical Society Monograph Series |
| ACPCAT | American Chemical Society, Division of Petroleum Chemistry, Preprints |
| ACPYAR | Acta Physicochimia URSS |
| ACSRAL | American Chemical Society, Abstracts of Papers |
| ADCSAJ | Advances in Chemistry Series |
| ADPCA2 | Advances in Photochemistry |
| AESTC9 | Advances In Environmental Science and Technology |
| AGAGAS | AGARDograph. Advisory Group for Aerospace Research and Development, North Atlantic Treaty Organization, Brussels, Belg., AGARDograph |
| AIAJAH | A.I.A.A. Journal (American Institute of Aeronautics and Astronautics) |
| AICEAC | A.I.Ch.E. Journal (American Institute of Chemical Engineers) |
| AJCHAS | Australian Journal of Chemistry |
| ANCEAD | Angewandte Chemie |
| APCSC3 | Archiwum Procesow Spalania |
| ARPCAW | Annual Reports on the Progress of Chemistry. Chemical Society of London |
| ASACAW | Astronautica Acta |
| AYKZAN | Armianskii Khimicheskii Zhurnal |
| AZKZAU | Azerbaidzhanskii Khimicheskii Zhurnal |
| BACCAT | Bulletin of the Academy of Sciences of the U.S.S.R., Divison of Chemical Science. (Transl. of Izvestiya Akademii Nauk, Seriiia Khimicheskaiia) |
| BBPCAX | Berichte der Bunsengesellschaft fuer physikalische Chemie |
| BCSJA8 | Bulletin of the Chemical Society of Japan |
| BICRAS | Bulletin of the Institute for Chemical Research, Kyoto University |
| BJSEA8 | Bulletin of J.S.M.E. (Japan Society of Mechanical Engineers) |
| B00KA7 | Book |
| BSCBAG | Bulletin des Societes Chimiques Belges |
| BSCFAS | Bulletin de la Societe Chimiques de France |
| CBFMA0 | Combustion and Flame |
| CBSTB9 | Combustion Science and Technology |
| CC0MA8 | Chemical Communications (London) |
| CESCAC | Chemical Engineering Science |
| CESWA4 | Combustion, Explosion and Shock Waves (Transl. of Fizika Goreniya Vzryva) |
| CHDCAO | Compte Rendus Hebdomadaires de Seances de l'Academie des Sciences (Paris). Serie C. Sciences Chimiques |

| | |
|---------|---|
| CHPLBC | Chemical Physics Letters |
| CHREAY | Chemical Reviews |
| CHTEAA | Chemische Technik |
| CINMAB | Chimica e l'Industria |
| CJCHAG | Canadian Journal of Chemistry |
| CMSHAP | Chemosphere |
| CØREAF | Academie des Sciences. Comptes Rendus Hebdomadaires des Seances (Paris) |
| DABBBAA | Dissertation Abstracts International, B. The Sciences and Engineering |
| DANAAW | Doklady Akademii Nauk Armianskoi S.S.R. |
| DANKAS | Doklady Akademii Nauk S.S.S.R. |
| DBGGAM | Dopovidi Akademii Nauk Ukrainsikoi Seriya B. Geolog. Geofizike, Khimiya ta Biolog. |
| DFSØAW | Discussions of the Faraday Society |
| DIASA9 | Dissertation Abstracts |
| DKCHAY | Doklady Chemistry (Transl. from Doklady Akademii Nauk SSSR) |
| DKPCAG | Doklady Physical Chemistry (Transl. from Doklady Akademii Nauk SSSR) |
| EKEPAB | Erdoel und Kohle, Erdgas, Petrochemie |
| EPTSBT | Environmental Protection Technology series |
| ESTHAG | Environmental Science and Technology |
| EVLTX | Environmental Letters |
| FDCSB7 | Faraday Discussions of the Chemical Society (London) |
| FGVZA7 | Fizika Gorenii i Vzryva |
| FUELAC | Fuel |
| GPENAS | Gospodarka Paliwami i Energia |
| HHHPA4 | Hua Hsueh Hsueh Pao (Journal of Chemistry) |
| HIECAP | High Energy Chemistry (Transl. of Khimii Vysokikh Energii) |
| IARKAZ | Izvestiya Akademii Nauk Armianskoi S.S.R., Khimicheskie Nauki |
| ICBEAJ | Industrie Chimique Belge |
| IECHAD | Industrial and Engineering Chemistry |
| IEPDAA | Industrial and Engineering Chemistry, Process Design and Development |
| IGNKBØ | Ispol'zovanie Gaza v Narodnom Khoziaistve (Saratov) |
| IJCKBØ | International Journal of Chemical Kinetics |
| IJØTA8 | Indian Journal of Technology |
| IUZTA4 | Izvestiya Akademii Nauk Uzbekskoi S.S.R., Seriya Tekhnicheskikh Nauk (Tashkent) |
| IVZEAY | Izvestiya Vysshikh Uchebnykh Zavedenii, Energetika |
| JACSAT | Journal of the American Chemical Society |
| JAPUAW | Journal of Applied Chemistry of the U.S.S.R. (Transl. of Zhurnal Prikladnoi Khimii) |

JCCCAT Journal of the Chemical Society, Chemical Communications
 JCFTAR Journal of the Chemical Society, Faraday Transaction I
 JCPBAN Journal de Chimie Physique et de Physico-Chimie Biologique
 JCPSA6 Journal of Chemical Physics (New York)
 JCSOA9 Journal of the Chemical Society
 JCSIAP Journal of the Chemical Society A. Inorganic, Physical, Theoretical
 JCSPAC Journal of the Chemical Society B. Physical Organic
 JETAAK Journal of the Faculty of Engineering, University of Tokyo, Series A. Annual Report
 JLUMA8 Journal of Luminescence
 JUCEAH Journal of Organic Chemistry
 JOCYA9 Journal of Organic Chemistry of the USSR (Transl. of Zhurnal Organicheskoi Khimii)
 JPCEA6 Journal fuer praktische Chemie
 JPCMAX Journal of Physical Chemistry
 JPCRBV Journal of Physical and Chemical Reference Data
 KGKZA7 Kogyo Kagaku Zasshi
 KICAA8 Kinetics and Catalysis (Transl. of Kinetika i Kataliz)
 MDPCAW Memoirs of the Defense Academy, Mathematics, Physics, Chemistry and Engineering
 NATUAS Nature
 NBTNAE U.S. National Bureau of Standards, Technical Note
 NEFTAH Neftekhimiya
 NENKAU Nenryo Kyokai-Shi
 NSRDAP U.S. National Bureau of Standards. National Standards Reference Data Series
 OXCRA4 Oxidation and Combustion Reviews
 PAKBAG Primyshlennost Armenii
 PECHAM Petroleum Chemistry USSR (Transl. of Neftekimiya)
 PHZSAL Physikalishe Zeitschrift der Sowjetunion
 PLSAAE Planetary and Space Science
 PRKNAZ Progress in Reaction Kinetics
 PRLAAZ Proceedings of the Royal Society, Series A. Mathematical and Physical Sciences
 PSIRAA Pakistan Journal of Scientific and Industrial Research
 PTPTA6 Problemy Teploenergetiki i Prikladnoi Teplofiziki (Alma-ata)
 QUREA7 Quarterly Reviews (London)
 RCBUAU Revista de Chimie (Bucharest)
 RCTEA4 Rubber Chemistry and Technology
 FEKIDM Reaction Kinetics (Specialist Periodical Reports) Chem. Soc. (London)
 RIFPA9 Revue de l'Institut Francais du Petrole et Annales des Combustibles Liquides

RJPCAR Russian Journal of Physical Chemistry (Transl. of Zhurnal Fizicheskoi Khimii)

RPCAAW Reviews of Pure and Applied Chemistry

RTCPA3 Recueil des Travaux Chimiques des Pays-Bas

RZKHAR Referativnyi Zhurnal, Khimiya

RZTEAT Referativnyi Zhurnal, Teploenergetika

SVCIA7 Soviet Chemical Industry (Transl. of Khimicheskaiia Promyshlennost)

SYMCAQ Symposium (International) on Combustion [Papers] (Pittsburgh)

TETRAB Tetrahedron

TFS0A4 Transaction of the Faraday Society

TP0VA7 Trudy Instituta i Proizvodstvennyi Opyt, Vsesoiunznyi Nauchno-Issledovatel'skii Institut Ispol'zovaniia Gasa v Narodnom Khoziaistve, Podzemnogo Khraneniia Nefti, Nefteproduktov i Szhizhennykh Gazov "Vniipromgas" (Moscow)

TPSGAG Teoriya i Praktika Szhiganiya Gaza (Leningrad)

USF0A7 Uspekhi Fotoniki (Leningrad)

UYTIAX Uchenye Zapiski Yaroslavskogo Tekhnologicheskogo Instituta

WSCPAH Western States Section, Combustion Institute

WZTLA3 Wissenschaftliche Zeitschrift der Technischen Hochschule fuer Chemie "Carl Schorlemmer" Leuna-Merseburg

XADRCH United States National Technical Information Service, AD Report

ZENAAU Zeitschrift fuer Naturforschung, Teil A. Astrophysik, Physik und physikalische Chemie (Tuebingen, German)

ZFKHA9 Zhurnal Fizicheskoi Khimii

ZPCFAX Zeitschrift fuer physikalische Chemie (Frankfurt am Main)

ZPLAH Zeitschrift fuer physikalische Chemie (Leipzig)

11RFA0 Problemy Okisleniia Uglevodorodov, Doklady Vsesoiuznoe Soveshchanie po Voprosam Okisleniia Uglevodorodov, (Moscow, 1951)

18VHAX Voprosy Khimicheskoi Kinetiki, Kataliza, i Reaktsionnoi Sposobnosti; Doklady k Vsesoiuznomu Soveshchaniiu po Khimicheskoi Kinetike i Reaktsionnoi Otdelenie Khimicheskikh Nauk Sposobnosti. 1955

21RAAM Uspekhi Khimii Organicheskikh Perekisnykh Soedinenii i Autookisleniia, Doklady na Vsesoiuznci Konferentsii po Sintezu, Issledovaniiu i Primeneniui Organicheskikh Perekisei, 3rd, Lvov, 1965 (1969)

23ASA5 Voprosy Teorii Goreniya, Trudy Obshchemoskovskogo Seminara po Teorii Goreniya, 1970

25OIAZ Chemical Reactions in Urban Atmospheres, Proceedings of the Symposium, General Motors Research Laboratories, Warren Michigan, October 6-7, 1969

26J0AP Gorenie i Vzryv, Materialy Vsesoiuznogo Simpoziuma po Goreniui i Vzryvu, 3rd, Leningrad, U.S.S.R., July 5-10, 1971 (Pub. 1972)

27PGA4 Materialy Soveshchaniia po Mekhanizmu Ingibirovaniia Tsepnykh Gazovykh Reaktsii, 1st, Kazakhskii Gosudarstvennyi Universitet, Alma-ata, July 22-27, 1970 (Pub. 1971)

28KMA4 Problemy Kinetiki Elementarnykh Khimicheskikh Reaktsii, Doklady Konferentsii po elementarnym Khimicheskim Reaktsiyam, Moscow, 1972 (Pub. 1973)

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11. Norrish, R. G. W., and Patnaik, D., "Effect of Light on the Combustion of Hydrocarbons," *Nature* **163**, 883 (1949)
12. Norrish, R. G. W., "Evidence Relating to the Combustion of Hydrocarbons," *Discuss. Faraday Soc.* **10**, 269 (1955)
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15. Norrish, R. G. W., and Thomas, G. M., "Oxidation of Gaseous Formaldehyde," *Nature* **210**, 728 (1966)
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20. Westley, F., "A Supplementary Bibliography of Kinetic Data on Gas Phase Reactions of Nitrogen, Oxygen, and Nitrogen Oxides," *NBS SP* **371** (1973) 79 pages
21. Westley, F., "Supplementary Bibliography of Kinetic Data on Gas Phase Reactions of Nitrogen, Oxygen, and Nitrogen Oxides (1972-1973)," *NBS SP* **371-1** (1975), 76 pages
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C₁ Compounds

- CH + θ (*M) → C θ + H (*M) [or \cdot CH θ (*M)]
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Huie and Herron PRKNAZ-1975-8-1 (review)
 Lin, M. C. IJCKB θ -1974-6-1 (mechanism)
- CH + θ_2 → C θ + θ H (or \cdot CH θ + θ , or C θ_2 + H)
 Bowman and Seery CBFMA θ -1968-12-611 (mechanism)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Glass, et al. SYMCAQ-1965-10-513
 Lin, M. C. IJCKB θ -1974-6-1 (mechanism)
 Peeters and Vinckier SYMCAQ-1975-15-969
- CH + θ H → \cdot CH θ + H (or C θ + H₂, or :CH₂ + θ)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH + H $\theta\theta$ → products (:CH θ , :CH₂, HCH θ , ...)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH + H₂ θ → products (\cdot CH θ , :CH₂, HCH θ , CH₃ \cdot , ...)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH + \cdot CH θ → :CH₂ + C θ
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH + HCH θ → :CH₂ + \cdot CH θ
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH + CH₃ θ → CH₃ \cdot + \cdot CH θ [or HCH θ + :CH₂, or CH₄ + C θ]
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH + R θ → products (\cdot CH θ , CH₃ \cdot , ...)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- :CH₂ + θ (*M) → products (C θ , CH, HCH θ , ...)
 Bradley and Tse TFS θ A4-1969-65-2685
 Brown and Thrush TFS θ A4-1967-63-630
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Huie and Herron PRKNAZ-1975-8-1 (review)
 Jones and Bayes PRLAAZ-1973-335-547
 Jones and Bayes SYMCAQ-1973-14-277
 Lavrov and Evlanov IUZTA4-1969-13-50 (review)
 Williams and Smith CHREAY-1970-70-267 (review)
- :CH₂ + θ_2 → products (CH, HCH θ , C θ_2 , ...)
 Avramenko and Kolesnikova DANKAS-1953-89-1037
 Avramenko and Kolesnikova DANKAS-1953-91-107
 Avramenko and Kolesnikova ZFKHA9-1956-30-581
 Eberius, et al. SYMCAQ-1973-14-147 (mechanism)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Gordon and Lin CHPLBC-1973-22-107 (related papers)
 Jones and Bayes PRLAAZ-1973-335-547
 Laufer and Bass JPCHAX-1974-78-1344
 Lavrov and Evlanov IUZTA4-1969-13-50 (review)
 Lavrov and Kiyan TP θ VA7-1969-21
 Norrish and Buckler B θ θ KA7-1941-385 (mechanism)
 Peeters and Mahnen B θ θ KA7-1973-53
 Peeters and Vinckier SYMCAQ-1975-15-969
 Rowland, et al. FDCSB7-1972-53-111

- $:CH_2 + \theta_2 \rightarrow$ products (CH, HCH θ , C θ_2 , ...) (Cont'd)
 Russell and Rowland JACSAT-1968-90-1671
 Vanpée and Grard SYMCAO-1955-5-484
- $:CH_2 + \theta H' (+M) \rightarrow$ products (CH, $\cdot CH\theta$, HCH θ , ...)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Peeters and Vinckier SYMCAO-1975-15-969
 Williams and Smith CHREAY-1970-70-267 (review)
- $:CH_2 + H\theta\theta \cdot \rightarrow$ products ($\cdot CH\theta$, CH $_3\theta \cdot$, CH $_3\theta \cdot$, ...)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- $:CH_2 + H_2\theta \rightarrow$ products (HCH θ , CH $_3\theta \cdot$, CH $_3\theta \cdot$, ...)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- $:CH_2 + \cdot CH\theta \rightarrow$ CH + HCH θ (or CH $_3\theta \cdot + C\theta$)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- $:CH_2 + HCH\theta \rightarrow$ products ($\cdot CH\theta$, CH $_3\theta \cdot$, ...)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- $:CH_2 + CH_3\theta \cdot \rightarrow$ products ($\cdot CH\theta$, HCH θ ...)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- $:CH_2 + CH_2=C-\theta \rightarrow$ C $\theta + CH_2=CH_2$
 Laufer and Bass JPCHAX-1974-78-1344
 Terao, et al. JACSAT-1963-85-3919
- $:CH_2 + R\theta \cdot \rightarrow$ products ($\cdot CH\theta$, HCH θ , ...)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH $_3\theta \cdot + \theta (+M) \rightarrow$ products (CH, $\cdot CH\theta$, HCH θ , ...)
 Bowman, C. T. CBSTB9-1970-2-161
 Dean and Kistiakowsky JCPSA6-1971-54-1718
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Fenimore and Jones JPCHAX-1961-65-1532
 Hampson and Garvin NBTNAE-1975-866-19 (review)
 Herron, J. T. IJCKB θ -1969-1-527 (review)
 Hule and Herron PRKNAZ-1975-8-1 (review)
 Jones and Bayes JACSAT-1972-94-6869 (mechanism)
 Mack and Thrush JCFTAR-1974-70-178
 Niki, et al. JCPSA6-1968-48-5729
 Niki, et al. SYMCAO-1969-12-277
 Seery and Bowman CBFMA θ -1970-14-37
 Slagle, et al. IJCKB θ -1974-6-111
 Washida and Bayes CHPLBC-1973-23-373
- CH $_3\theta \cdot + \theta_2 \rightarrow$ products ($:CH_2$, $\cdot CH\theta$, HCH θ , CH $_3\theta \cdot$, ...)
 Allara, et al. IJCKB θ -1972-4-345
 Asaba, et al. SYMCAO-1963-9-193
 Avramenko and Kolesnikova DANKAS-1953-89-1037
 Avramenko and Kolesnikova DANKAS-1953-91-107
 Avramenko and Postnikov BACCAT-1960-1796
 Baldwin, et al. ADCSAJ-1968-76-124
 Baldwin, et al. SYMCAO-1971-13-251
 Barnard and Cohen TFS θ A4-1968-64-396
 Basco, et al. IJCKB θ -1972-4-129
 Bowman, C. T. CBSTB9-1970-2-161
 Brabbs and Brokaw SYMCAO-1975-15-893
 Cathonnet and James JCPBAN-1973-70-1171 (mechanism)
 Christie, M. I. PRLAAZ-1958-244-411
 Cooke and Williams SYMCAO-1971-13-757 (evaluation)
 Dean and Kistiakowsky JCPSA6-1971-54-1718
 Demerjian, et al. AESTC9-1974-4-1 (review)
 DeMore and Raper JCPSA6-1967-46-2500
 Drysdale and Norrish PRLAAZ-1969-308-305 (mechanism)

$\text{CH}_3^\bullet + \text{O}_2 \rightarrow \text{products} (\text{:CH}_2, \text{CH}_2^\bullet, \text{HCH}_2^\bullet, \text{CH}_3^\bullet, \dots)$ (Cont'd)

| | |
|--|---------------------------------------|
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 (review) |
| Enikolopyan, N. S. | SYMCAQ-1959-7-157 |
| Falconer and Knox | PRLAZ-1959-250-493 |
| Gray, J. A. | JCSA9-1952-3150 (mechanism) |
| Hampson and Garvin | NBTNAE-1975-866-26 (review) |
| Hanst and Calvert | JPCHAX-1959-63-71 (mechanism) |
| Harding and Norrish | PRLAZ-1952-212-291 (mechanism) |
| Heicklen, J. | ADCSAJ-1968-76-23 (review) |
| Heicklen and Johnston | JACSAT-1962-84-4030 |
| Hoare and Walsh | TFSOA4-1957-53-1102 |
| Hoey and Kutschke | CJCHAG-1955-33-496 |
| Ingold and Bryce | JCPSA6-1956-24-360 (mechanism) |
| Jachimowski, C. J. | CBFMA6-1974-23-233 (estimate) |
| Karmilova, et al. | ZFKHA9-1956-30-798 |
| Karmilova, et al. | RJPCAR-1960-34-562 (mechanism) |
| Kleimenov and Nalbandyan | DKPCAG-1958-122-667 |
| Kleimenov, et al. | ZFKHA9-1956-30-794 (mechanism) |
| Knox, J. H. | ARPCAW-1962-59-18 (review) |
| Lavrov and Evlanov | IUZTA4-1969-13-50 (review) |
| Lavrov and Kiyan | TPOVA7-1969-21 |
| Lee and Malmberg | ACSRAL-1961-139-2J |
| Mantashyan, et al. | DKPCAG-1972-202-17 |
| Marcotte and Noyes | DFSOW-1951-10-236 |
| Marcotte and Noyes | JACSAT-1952-74-783 |
| McKellar and Norrish | PRLAZ-1961-263-51 (mechanism) |
| McMillan and Calvert | OXCRA4-1965-1-83 (review) |
| Miyama and Takeyama | JCPSA6-1964-40-2049 |
| Nalbandyan, A. B. | DANKAS-1948-60-607 (mechanism) |
| Nalbandyan, A. B. | ZFKHA9-1948-22-1443 (mechanism) |
| Niki, et al. | ADCSAJ-1972-113-16 (review) |
| Norrish, R. G. W. | RI FPA9-1949-4-288 (mechanism) |
| Norrish, R. G. W. | DFSOW-1951-10-269 (mechanism) |
| Pearson, G. S. | JPCHAX-1963-67-1686 |
| Peeters and Mahnen | SYMCAQ-1973-14-133 |
| Poroikova, A. I. | RZKHAR-1972-5B1151 |
| Seery and Bowman | CBFMA6-1970-14-37 |
| Semenov, N. N. | BØKA7-1959-2-217 (review) |
| Simonaitis and Heicklen | JPCHAX-1975-79-298 |
| Skinner, et al. | JCPSA6-1972-56-3853 (calculation) |
| Sleppy and Calvert | JACSAT-1959-81-769 |
| Sokolova, et al. | DKCHAY-1969-185-298 |
| Sokolova, et al. | RZKHAR-1972-5B1168 |
| Sokolova, et al. | KICAA8-1973-14-721 |
| Sokolova, et al. | KICAA8-1973-14-977 |
| Vanpée and Grard | SYMCAQ-1955-5-484 |
| van den Bergh and Callear | TFSOA4-1971-67-2017 |
| Von Elbe and Lewis | JACSAT-1937-59-976 (mechanism) |
| Wenger and Kutschke | CJCHAG-1959-37-1546 |
| Westenberg and Fristrom | JPCHAX-1961-65-591 (mechanism) |
| | |
| $\text{CH}_3^\bullet + \text{O}_3 \rightarrow \text{CH}_3^\bullet + \text{O}_2$ | |
| DeMore and Raper | JCPSA6-1967-46-2500 |
| Simonaitis and Heicklen | JPCHAX-1975-79-298 |
| | |
| $\text{CH}_3^\bullet + \text{OH} \rightarrow \text{:CH}_2 + \text{H}_2\text{O} (\text{or } \text{CH}_3\text{OH})$ | |
| Drysdale and Lloyd | OXCRA4-1970-4-157 (review) |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 (review) |
| Greiner, N. R. | JCPSA6-1970-53-1070 |
| Peeters and Vinckier | SYMCAQ-1975-15-969 |
| | |
| $\text{CH}_3^\bullet + \text{H}_2\text{O} \rightarrow \text{products} (\text{HCH}_2^\bullet, \text{CH}_3^\bullet, \text{CH}_4, \dots)$ | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 (review) |
| | |
| $\text{CH}_3^\bullet + \text{H}_2\text{O} \rightarrow \text{CH}_3^\bullet + \text{H}_2 (\text{or } \text{CH}_4 + \text{OH})$ | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 (review) |
| | |
| $\text{CH}_3^\bullet + \text{CH}_3\text{O} \rightarrow \text{CH}_4 + \text{CO} (\text{or } \text{:CH}_2 + \text{HCH}_2^\bullet)$ | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 (review) |

$\text{CH}_3 \cdot + \text{HCHO} \rightarrow \text{products} (\cdot\text{CH}_2, \text{CH}_3\text{O}\cdot, \dots)$
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Pearson, G. S. JPCHAX-1963-67-1686

$\text{CH}_3 \cdot + \text{R}\ddot{\text{O}}\cdot \rightarrow \text{products} (\text{CH}_4, \text{HCHO}, \dots)$
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Gray, et al. PRKNAZ-1967-4-63 (review)
 Heicklen, J. ADCSAJ-1968-76-23 (review)
 Sochet, et al. ADCSAJ-1968-76-111 (mechanism)
 Sokolova, et al. KICAA8-1973-14-977
 Thynne and Gray TFS0A4-1963-59-1149

$\text{CH}_3 \cdot + \text{R}\ddot{\text{O}}\text{O}\cdot \rightarrow \text{CH}_3\text{O}\cdot + \text{R}\ddot{\text{O}}\cdot \text{ (or } \text{CH}_3\text{OOR)}$
 Heicklen, J. ADCSAJ-1968-76-23 (review)

$\text{CH}_4 + \text{O} \rightarrow \text{products} (: \text{CH}_2, \text{CH}_3\cdot, \text{HCHO}, \text{CH}_3\text{OH}, \dots)$
 Asaba, et al. SYMCAQ-1963-9-193
 Avramenko and Kolesnikova DANKAS-1953-91-107
 Avramenko and Kolesnikova BACCAT-1971-20-2556
 Avramenko and Kolesnikova 11RFAQ-1954-51
 Avramenko, et al. BACCAT-1963-557
 Azatyan, V. V. AYKZAN-1967-20-577
 Azatyan, et al. KICAA8-1964-5-177
 Brabbs and Brokaw SYMCAQ-1975-15-893
 Bradley, et al. JCSIAP-1971-326
 Brown and Thrush TFS0A4-1967-63-630
 Cadle and Allen JPCHAX-1965-69-1611
 Dean and Kistiakowsky JCPSA6-1971-54-1718
 Demerjian, et al. AESTC9-1974-4-1 (review)
 DeMore and Raper JCPSA6-1967-46-2500
 Dryer, F. L. XADRCR-1972-AD 746284 (review)
 Dryer, F. L. DABBBB-1973-34-1539 (mechanism)
 Dryer and Glassman SYMCAQ-1973-14-987 (review)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Fenimore and Jones JPCHAX-1961-65-1532 (mechanism)
 Fenimore and Jones JPCHAX-1961-65-2200
 Froben, F. W. BBPCAX-1968-72-996
 Hampson and Garvin NBTNAE-1975-866-19 (review)
 Herron, J. T. IJCKB0-1969-1-527 (review)
 Herron and Hule JPCRBU-1973-2-467 (review)
 Hule and Herron PRKNAZ-1975-8-1 (review)
 Jones and Bayes JACSAT-1972-94-6869 (mechanism)
 Karmilova, et al. ZFKHA9-1956-30-798
 Kleimenov and Nalbandyan DKPCAG-1958-122-667
 Kleimenov, et al. ZFKHA9-1956-30-794 (mechanism)
 Lavrov and Evlanov IUZTA4-1969-13-50 (review)
 Lavrov and Grebenshchikova 23ASA5-1970-126
 Lin and DeMore JPCHAX-1973-77-863
 Mayer and Schieler JPCHAX-1968-72-2628 (estimation)
 Moshkina, et al. BACCAT-1959-1654
 Norrish, R. G. W. PRLAAZ-1935-150-36
 Norrish, R. G. W. RIFPA9-1949-4-288 (mechanism)
 Norrish, R. G. W. DFS0AW-1951-10-269 (mechanism)
 Norrish and Buckler B00KA7-1941-385 (review)
 Norrish and Foord PRLAAZ-1936-157-503
 Norrish and Wallace PRLAAZ-1934-145-307 (mechanism)
 Paraskevopoulos and Cvetanović JACSAT-1969-91-7572
 Prvilov and Vilesov RJPCAR-1971-45-1018
 Prvilov and Vilesov USF0A7-1971-41
 Schofield, K. PLSSAE-1967-15-643 (review)
 Simonaitis and Heicklen JPCHAX-1975-79-298
 Skinner, et al. JCPSA6-1972-56-3853 (calculation)
 Soloukhin, R. I. SYMCAQ-1971-13-121
 Vanpée and Grard SYMCAQ-1955-5-484 (mechanism)
 Vilesov and Prvilov HIECAP-1970-4-191
 Vilesov and Prvilov HIECAP-1970-4-475
 Westenberg and de Haas JCPSA6-1967-46-490
 Westenberg and de Haas JCPSA6-1969-50-2512
 Westenberg and Fristrom JPCHAX-1961-65-591 (mechanism)
 Wong and Potter JCPSA6-1963-39-2211
 Wong and Potter CJCHAG-1967-45-367
 Young, et al. JCPSA6-1968-49-4758

CH₄ + O₂ → products (overall, CH₃[•], CH₃O[•], ...)

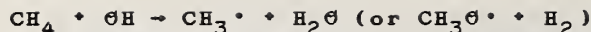
| | | |
|-----------------------------|------------------------------|-------------------------|
| Abramov and Fisak | PTPTA6-1972-78 | |
| Abramov, et al. | TPSGAG-1967-3-245 | |
| Antonik and Lucquin | BSCFAS-1968-4043 | |
| Antonova, et al. | BACCAT-1955-711 | |
| Asaba, et al. | SYMCAQ-1963-9-193 | |
| Baldwin and Walker | SYMCAQ-1973-14-241 | (review) |
| Barassin, et al. | BSCFAS-1967-2521 | |
| Basevich, et al. | BACCAT-1971-20-1313 | |
| Basevich, et al. | BACCAT-1971-20-2071 | |
| Basevich, et al. | BACCAT-1972-21-2079 | |
| Blundell, et al. | SYMCAQ-1965-10-445 | |
| Bois d'Enghien, et al. | BSCFAS-1968-2321 | |
| Bone and Allum | PRLAAZ-1932-134-578 | |
| Bone and Gardner | PRLAAZ-1936-154-297 | |
| Bone and Wheeler | JCS6A9-1902-81-535 | |
| Bone and Wheeler | JCS6A9-1903-83-1074 | |
| Bowman and Seery | WSCPAH-1968-No. 68-41 | |
| Burke and Van Tiggelen | BSCBAG-1965-74-426 | |
| Cooke and Williams | SYMCAQ-1971-13-757 | |
| Crossley, et al. | CBFMA6-1972-19-373 | |
| Cullis, et al. | PRLAAZ-1963-276-527 | |
| Dabora, E. K. | CBFMA6-1975-24-181 | |
| De Wilde and Van Tiggelen | BSCBAG-1968-77-67 | (generalized mechanism) |
| Dorko, et al. | CBFMA6-1975-24-173 | |
| Dryer, F. L. | XADRCH-1972-AD 746284 | |
| Dryer, F. L. | DABBBB-1973-34-1539 | |
| Dryer and Glassman | SYMCAQ-1973-14-987 | |
| D'Souza and Karim | CBSTB9-1971-3-83 | |
| Egerton and Roy | ZEELAI-1957-61-584 | |
| Egerton, et al. | PRLAAZ-1956-235-158 | |
| Egerton, et al. | CBFMA6-1957-1-25 | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| Enikolopyan, N. S. | SYMCAQ-1959-7-157 | |
| Enikolopyan and Bel'govskii | RJPCAR-1960-34-749 | |
| Enikolopyan and Konareva | BACCAT-1961-210 | |
| Enikolopyan and Konareva | BACCAT-1960-389 | |
| Enikolopyan and Korolev | DKPCAG-1958-118-95 | |
| Enikolopyan, et al. | JAPUAW-1959-32-930 | |
| Enikolopyan, et al. | ZFKHA9-1957-31-865 | |
| Evlanov, S. F. | KICAA8-1973-14-427 | |
| Falconer, et al. | JCS6A9-1961-782 | |
| Fort and Hinshelwood | PRLAAZ-1930-129-284 | |
| Frear, G. L. | JACSAT-1934-56-305 | |
| Fristrom and Westenberg | SYMCAQ-1962-8-438 | |
| Garibyan, et al. | AYKZAN-1972-25-95 | |
| Garner and Ham | PRLAAZ-1939-170-80 | |
| Germain and Sueur | BSCFAS-1961-1008 | |
| Glass, et al. | SYMCAQ-1965-10-513 | |
| Higgin and Williams | SYMCAQ-1969-12-579 | |
| Hoare, D. E. | AGAGAS-1965-86-125 | |
| Hoare and Patel | TFS6A4-1969-65-1325 | |
| Hoare and Walsh | SYMCAQ-1955-5-467 | |
| Hoare and Walsh | SYMCAQ-1955-5-474 | |
| Jachimowski, C. J. | CBFMA6-1974-23-233 | |
| Jacobs, N. F. | DABBBB-1970-30-3121 | |
| James, H. | RIFPA9-1958-13-338 | |
| Karmilova, et al. | ZFKHA9-1956-30-798 | |
| Karmilova, et al. | ZFKHA9-1957-31-851 | |
| Karmilova, et al. | RJPCAR-1960-34-261 | |
| Karmilova, et al. | RJPCAR-1960-34-470 | |
| Karmilova, et al. | RJPCAR-1961-35-512 | |
| Karmilova, et al. | RJPCAR-1961-35-717 | |
| Karmilova, et al. | RJPCAR-1961-35-706 | |
| Karmilova, et al. | RJPCAR-1960-34-562 | |
| Karpov, V. P. | APCSC3-1971-2-157 | |
| Karpov, V. P. | 26J6AP-1972-382 | |
| Kashirskii, et al. | IVZEAY-1974-17-71 | |
| Kistiakowsky and Richards | JCPSA6-1962-36-1707 | |
| Kleimenov and Nalbandyan | DKPCAG-1958-122-667 | |
| Kleimenov and Nalbandyan | DKPCAG-1959-124-5 | |
| Knox, J. H. | ARPCAW-1962-59-18 | (review) |
| Kordysh, et al. | SVCIA7-1974-354 | |
| Kovalivnich and Glikin | RZKHAR-1973-11B1055 | |
| Kovalivnich, et al. | FGVZA7-1974-10-446 | |
| Kowalsky, et al. | PHZSAL-1932-1-451 | |
| Kozlov, G. I. | INFZA9-1958-1-41 | |

CH₄ + O₂ → products (overall, CH₃[•], CH₃O[•], ...) (Cont'd)

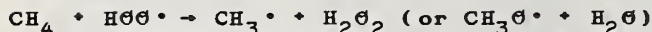
| | | |
|----------------------------|------------------------|---------------|
| Kozlov, G. I. | SYMCAQ-1959-7-142 | |
| Lavrov, N. V. | IGNKB6-1967-27 | (mechanism) |
| Lavrov and Grebenshchikova | 23ASA5-1970-126 | |
| Lavrov and Grebenshchikova | TP0VA7-1973-4 | |
| Lavrov and Pervykh | TP0VA7-1973-3 | |
| Levy, et al. | SYMCAQ-1962-8-524 | |
| Lewis and Von Elbe | B00KA7-1961-90 | (review) |
| Lifshitz, et al. | CBFMA6-1971-16-311 | |
| Mari, R. | JCPBAN-1962-59-589 | |
| Mari, et al. | JCPBAN-1962-59-596 | |
| Mari, et al. | JCPBAN-1962-59-324 | |
| Mayer and Schieler | JPCHAX-1968-72-2628 | (estimation) |
| Miller, et al. | RJPCAR-1960-34-940 | |
| Minkoff and Tipper | B00KA7-1962-151 | (review) |
| Moshkina, et al. | BACCAT-1959-1654 | |
| Moshkina, et al. | BACCAT-1957-821 | |
| Mullins, B. P. | FUELAC-1953-32-343 | |
| Nalbandyan, A. B. | DANKAS-1948-60-607 | |
| Nalbandyan, A. B. | ZFKHA9-1948-22-1443 | |
| Naylor and Wheeler | JCS0A9-1935-1426 | |
| Nemeth and Sawyer | JPCHAX-1969-73-2421 | |
| Nemeth, et al. | MGKLAL-1974-29-100 | |
| Neiman and Egorov | PHZSAL-1932-1-700 | |
| Neiman and Egorov | ZFKHA9-1932-3-61 | |
| Neiman and Serbinov | NATUAS-1931-128-1040 | |
| Neiman and Serbinov | PHZSAL-1932-1-536 | |
| Neiman and Serbinov | PHZSAL-1933-4-433 | |
| Neiman and Serbinov | ZFKHA9-1932-3-75 | |
| Neiman and Serbinov | ZFKHA9-1933-4-41 | |
| Newitt and Gardner | PRLAAZ-1936-154-329 | |
| Newitt and Haffner | PRLAAZ-1932-134-591 | |
| Norrish, R. G. W. | PRLAAZ-1935-150-36 | |
| Norrish, R. G. W. | RIFPA9-1949-4-288 | (mechanism) |
| Norrish, R. G. W. | DFS0AW-1951-10-269 | (mechanism) |
| Norrish and Buckler | B00KA7-1941-385 | |
| Norrish and Foord | PRLAAZ-1936-157-503 | |
| Norrish and Patnaik | NATUAS-1949-163-883 | |
| Norrish and Reagh | PRLAAZ-1940-176-429 | |
| Norrish and Wallace | PRLAAZ-1934-145-307 | |
| Oganov, et al. | PAKBAG-1972-21 | |
| Panduranga, V. | IJ0TAS-1973-11-10 | |
| Pelini and Antonik | BSCFAS-1974-2735 | |
| Poroikova and Nalbandyan | KICAA8-1971-12-759 | (mechanism) |
| Schchemele, et al. | FGVZA7-1974-10-612 | |
| Seery and Bowman | CBFMA6-1970-14-37 | |
| Seery and Rowman | ACSRAL-1967-154-L20 | |
| Semenov, N. N. | PHZSAL-1932-1-546 | |
| Semenov, N. N. | B00KA7-1959-2-217 | (review) |
| Semenov, N. | B00KA7-1935-295 | (review) |
| Shtern, V. Ya. | B00KA7-1964 | (review) |
| Simonson and Moore | SYMCAQ-1955-5-458 | |
| Skinner, G. B. | JCPSA6-1973-58-412 | |
| Skinner and Ruehrwein | JPCHAX-1959-63-1736 | |
| Skinner, et al. | JCPSA6-1972-56-3853 | (calculation) |
| Skwaradowski, E. | GPENAS-1973-21-17 | |
| Slotin and Style | TFS0A4-1939-35-420 | |
| Sochet, et al. | JCPBAN-1966-63-1555 | |
| Soloukhin, R. I. | CESWA4-1966-2-6 | |
| Soroka and Erinov | TPSGAG-1972-5-105 | |
| Tsuji, et al. | NENKAU-1966-45-684 | |
| Tverdokhlebov, et al. | RZTEAT-1972-12T52 | |
| Vandenabeele, et al. | CBFMA6-1960-4-253 | |
| Vanpée and Grard | FUELAC-1955-34-433 | |
| Vanpée and Grard | SYMCAQ-1955-5-484 | |
| White, D. R. | XADRCH-1970-AD 7140727 | |
| Zallen, D. M. | DABBBA-1974-34-3809 | |

CH₄ + O₃ → products (overall)

| | | |
|------------------------|-----------------------|----------|
| Dillemuth and Schubert | WSCPAA-1963-No. 63-22 | |
| Dillemuth, et al. | JPCHAX-1960-64-1496 | |
| Hampson and Garvin | NBTNAE-1975-866-31 | (review) |
| Pravilov and Vilesov | USF0A7-1971-41 | |
| Schofield, K. | PLSSAE-1967-15-643 | (review) |
| Schubert and Pease | JACSAT-1956-78-2044 | |
| Schubert and Pease | JCPSA6-1956-24-919 | |
| Stedman and Niki | EVLTAx-1973-4-303 | |



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|--------------------------|------------------------------|---------------|
| Baldwin, et al. | ADCSAJ-1968-76-124 | |
| Blundell, et al. | SYMCAQ-1965-10-445 | |
| Demerjian, et al. | AESTCS-1974-4-1 | (review) |
| Dixon-Lewis and Williams | SYMCAQ-1967-11-951 | |
| Dryer, F. L. | XADRCH-1972-AD 746284 | (review) |
| Drysdale and Lloyd | OXCR4-1970-4-157 | (review) |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| Enikolopyan, N. S. | SYMCAQ-1959-7-157 | |
| Falconer, et al. | JCSA9-1961-4285 | |
| Fenimore and Jones | JPCHAX-1961-65-1532 | (mechanism) |
| Fenimore and Jones | JPCHAX-1961-65-2200 | |
| Fristrom, R. M. | SYMCAQ-1963-9-560 | |
| Greiner, N. R. | JCPSA6-1967-46-2795 | |
| Greiner, N. R. | JCPSA6-1968-48-1413 | |
| Greiner, N. R. | JCPSA6-1970-53-1070 | |
| Hampson and Garvin | NBTNAE-1975-866-57 | (review) |
| Herron, J. T. | IJCKB6-1969-1-527 | (review) |
| Hoare, D. E. | AGAGAS-1965-86-125 | |
| Hoare and Patel | TFS0A4-1969-65-1325 | |
| Horne and Norrish | NATUAS-1967-215-1373 | |
| Karmilova, et al. | ZFKHA9-1956-30-798 | |
| Karmilova, et al. | RJPCAR-1961-35-717 | |
| Karmilova, et al. | RJPCAR-1960-34-562 | |
| Kleimenov, et al. | ZFKHA9-1956-30-794 | |
| Lavrov and Evlanov | IUZTA4-1969-13-50 | (review) |
| Lin and DeMore | JPCHAX-1973-77-863 | |
| Minkoff and Tipper | B00KA7-1962-151 | (review) |
| Nalbandyan, A. B. | DANKAS-1948-60-607 | (mechanism) |
| Nalbandyan, A. B. | ZFKHA9-1948-22-1443 | (mechanism) |
| Norrish, R. G. W. | RIFPA9-1949-4-288 | (mechanism) |
| Norrish, R. G. W. | DFS0AW-1951-10-269 | (mechanism) |
| Peeters and Mahnen | SYMCAQ-1973-14-133 | |
| Poroiikova, A. I. | RZKHAR-1972-5B1151 | |
| Schofield, K. | PLSSAE-1967-15-643 | (review) |
| Semenov, N. N. | B00KA7-1959-2-217 | (review) |
| Skinner, et al. | JCPSA6-1972-56-3853 | (calculation) |
| Sochet, L.-R. | JCPBAN-1973-70-456 | |
| Vanpée and Grand | SYMCAQ-1955-5-484 | |
| Von Elbe and Lewis | JACSAT-1937-59-976 | (mechanism) |
| Westenberg and Fristrom | JPCHAX-1961-65-591 | |
| Wilson, Wm. E., Jr. | JCPSA6-1970-53-1300 | |
| Wilson, Wm. E., Jr. | JPCRBU-1972-1-535 | (review) |



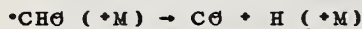
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| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| Enikolopyan, N. S. | SYMCAQ-1959-7-157 | |
| Karmilova, et al. | RJPCAR-1960-34-562 | |
| Minkoff and Tipper | B00KA7-1962-151 | (review) |
| Schofield, K. | PLSSAE-1967-15-643 | (review) |
| Semenov, N. N. | B00KA7-1959-2-217 | (review) |
| Skinner, et al. | JCPSA6-1972-56-3853 | (calculation) |
| Sochet, L.-R. | JCPBAN-1973-70-456 | |



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| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
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| Falconer, et al. | JCSA9-1961-4285 | |
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|-------------------------|------------------------------|----------|
| Benson and Neal | NSRDAP-1970-21-587 | (review) |
| Bowman, C. T. | CBSTB9-1970-2-161 | |
| Browne, et al. | SYMCAQ-1969-12-1035 | |
| Calvert, J. G. | JPCHAX-1957-61-1206 | |
| DeGraff and Calvert | JACSAT-1967-89-2247 | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| Gay, et al. | JCPSA6-1965-43-4017 | |
| Geisbrecht and Daubert | IEPDAW-1975-14-159 | |
| Marcotte and Noyes | DFS0AW-1951-10-236 | |
| Marcotte and Noyes | JACSAT-1952-74-783 | |
| Markevich and Filippova | RJPCAR-1959-33-358 | |

•CH θ (*M) \rightarrow C θ + H (*M) (Cont'd)

| | | |
|----------------------|----------------------------|----------|
| McMillan and Calvert | OX CRA4-1965-1-83 | (review) |
| Pearson, G. S. | JPCHAX-1963-67-1686 | |
| Seery and Bowman | CBFMA θ -1970-14-37 | |

•CH θ + θ \rightarrow C θ + θ H (or C θ_2 + H, or CH + θ_2)

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|------------------------|------------------------------|-------------|
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| Hampson and Garvin | NBTNAE-1975-866-19 | (review) |
| Herron, J. T. | IJCKB θ -1969-1-527 | (review) |
| Huie and Herron | PRKNAZ-1975-8-1 | (review) |
| Mack and Thrush | JCFTAR-1973-69-208 | |
| Mack and Thrush | JCFTAR-1974-70-187 | |
| Niki, et al. | SYMCAQ-1969-12-277 | |
| Schofield, K. | PLSSAE-1967-15-643 | (review) |
| Thrush, B. A. | BBPCAX-1968-72-966 | (mechanism) |
| Westenberg and de Haas | JPCHAX-1972-76-2215 | |

•CH θ + θ_2 \rightarrow products (C θ , C θ_2 , HC(θ) $\theta\theta$., . . .)

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|--------------------------|---------------------------------|-------------|
| Atkinson, et al. | JACSAT-1973-95-7592 | (mechanism) |
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| Drysdale and Norrish | PRLAAZ-1969-308-305 | (mechanism) |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| Enikolopyan, N. S. | SYMCAQ-1959-7-157 | |
| Geisbrecht and Daubert | IEPDAW-1975-14-159 | |
| Hampson and Garvin | NBTNAE-1975-866-25 | (review) |
| Hanst and Calvert | JPCHAX-1959-63-71 | (mechanism) |
| Hay and Hessam | CBFMA θ -1971-16-237 | |
| Heicklen and Johnston | JACSAT-1962-84-4030 | (mechanism) |
| Horner, et al. | TFS θ A4-1954-50-1201 | |
| Karmilova, et al. | ZFKHA9-1956-30-798 | |
| Karmilova, et al. | RJPCAR-1960-34-562 | (mechanism) |
| Lavrov and Evlanov | IUZTA4-1969-13-50 | (review) |
| Lewis and Von Elbe | B $\theta\theta$ KA7-1961-90 | (review) |
| Marcotte and Noyes | DFS θ AW-1951-10-236 | |
| Marcotte and Noyes | JACSAT-1952-74-783 | |
| Markevich and Filippova | RJPCAR-1959-33-358 | |
| McMillan and Calvert | OX CRA4-1965-1-83 | (review) |
| Minkoff and Tipper | B $\theta\theta$ KA7-1962-136 | |
| Niki, et al. | ADCSAJ-1972-113-16 | (review) |
| Norrish and Thomas | NATUAS-1966-210-728 | (mechanism) |
| Pearson, G. S. | JPCHAX-1963-67-1686 | |
| Peeters and Mahnen | SYMCAQ-1973-14-133 | |
| Semenov, N. N. | B $\theta\theta$ KA7-1959-2-217 | (review) |
| Vardanyan and Nalbandyan | KICAA8-1970-11-927 | (mechanism) |
| Vardanyan, et al. | AYKZAN-1972-25-281 | |
| Vardanyan, et al. | DKPCAG-1970-191-210 | (mechanism) |
| Vardanyan, et al. | CBFMA θ -1974-22-153 | |
| Von Elbe and Lewis | JACSAT-1937-59-976 | (mechanism) |

•CH θ + θ_3 \rightarrow products

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| Atkinson, et al. | JACSAT-1973-95-7592 | (mechanism) |
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•CH θ + H \rightarrow products (C θ , CH, :CH $_2$, HCH θ , . . .)

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|---------------------|------------------------------|----------|
| Browne, et al. | SYMCAQ-1969-12-1035 | |
| DeGraff and Calvert | JACSAT-1967-89-2247 | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| Herron, J. T. | IJCKB θ -1969-1-527 | (review) |
| Huie and Herron | PRKNAZ-1975-8-1 | (review) |
| Mack and Thrush | JCFTAR-1973-69-208 | |
| Mack and Thrush | JCFTAR-1974-70-187 | |
| Niki, et al. | SYMCAQ-1969-12-277 | |

•CH θ + H $_2$ (*M) \rightarrow products (CH, :CH $_2$, HCH θ , . . .)

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| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
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•CH θ + θ H \rightarrow products (C θ , CH $_2$ =CH $_2$, . . .)

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| Bowman, C. T. | CBSTB9-1970-2-161 | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| Jachimowski, C. J. | CBFMA θ -1974-23-233 | (estimate) |
| Schofield, K. | PLSSAE-1967-15-643 | (review) |
| Seery and Bowman | CBFMA θ -1970-14-37 | |
| Westenberg and Fristrom | JPCHAX-1961-65-591 | (mechanism) |

- CH θ + H $\theta\theta$ • → products (C θ_2 , HCH θ , ...)
Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH θ + H $_2\theta$ → products (:CH $_2$, CH $_3$ •, HCH θ , ...)
Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH θ + CH → C θ + :CH $_2$
Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH θ + :CH $_2$ → CH + HCH θ (OR CH $_3$ • + C θ)
Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH θ + CH $_3$ • → CH $_4$ + C θ (or :CH $_2$ + HCH θ)
Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH θ + CH $_4$ → CH $_3$ • + HCH θ
Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH θ + •CH θ → C θ + HCH θ (or :CH $_2$ + C θ_2)
Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH θ + HCH θ → CH $_3$ • + C θ_2 (or C θ + CH $_3\theta$ •)
Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH θ + CH $_3\theta$ • → products (HCH θ , CH $_4$, ...)
Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH θ + R• → C θ + RH
DeGraff and Calvert JACSAT-1967-89-2247
Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH θ + RH → products (HCH θ , CH $_3\theta$ •, ...)
Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- CH θ + R θ • → products (HCH θ , CH $_4$, ...)
Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
- HC $\theta\theta$ • → H + C θ_2
Demerjian, et al. AESTC9-1974-4-1 (review)
- HC $\theta\theta$ • + θ_2 → C θ_2 + H $\theta\theta$ •
Demerjian, et al. AESTC9-1974-4-1 (review)
- HC $\theta\theta$ • + HCH θ → •CH θ + HC $\theta\theta$ H
Hanst and Calvert JPCHAX-1959-63-71 (mechanism)
- HC $\theta\theta$ • + CH $_3\theta$ • → CH $_3\theta$ H + C θ_2
Heicklen and Johnston JACSAT-1962-84-4030 (mechanism)
- HC(θ) $\theta\theta$ • (+M) → C θ + H $\theta\theta$ • (+M)
Geisbrecht and Daubert IEPDAW-1975-14-159
Scheer, M. D. SYMCAQ-1955-5-435
Vardanyan, et al. DKPCAG-1970-191-210

$HC(\theta)\theta\theta \cdot + \theta_2 \rightarrow C\theta + H\theta\theta \cdot + \theta_2$ (or $HC\theta\theta \cdot + \theta_3$)
 Hanst and Calvert JPCHAX-1959-63-71 (mechanism)
 Scheer, M. D. SYMCAQ-1955-5-435

$HC(\theta)\theta\theta \cdot + H\theta\theta \cdot \rightarrow HC(\theta)\theta\theta H + \theta_2$ (or $HC\theta\theta \cdot + \theta_2 + \theta H$)
 Demerjian, et al. AESTC9-1974-4-1 (review)

$HC(\theta)\theta\theta \cdot + HCH\theta \rightarrow \cdot CH\theta + HC(\theta)\theta\theta H$
 Minkoff and Tipper B00KA7-1962-136
 Scheer, M. D. SYMCAQ-1955-5-435
 Vardanyan and Nalbandyan KICAA8-1970-11-927 (mechanism)
 Vardanyan, et al. DKPCAG-1970-191-210 (mechanism)

$HC(\theta)\theta\theta \cdot + R\theta\theta \cdot \rightarrow HC\theta\theta \cdot + R\theta \cdot + \theta_2$
 Demerjian, et al. AESTC9-1974-4-1 (review)

$HCH\theta (+M) \rightarrow$ products (CH, C θ , $\cdot CH\theta$, ...)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Gay, et al. JCPSA6-1965-43-4017
 Peeters, J. ICBEAJ-1973-38-6
 Peeters and Mahnen SYMCAQ-1973-14-133

$HCH\theta + \theta \rightarrow$ products (C θ , $\cdot CH\theta$, ...)
 Avramenko and Kolesnikova ZFKHA9-1956-30-581 (mechanism)
 Avramenko and Lorentso CHTEAA-1953-5-193
 Avramenko and Lorentso ZFKHA9-1952-26-1084
 Baldwin and Cowe TFS0A4-1962-58-1768
 Baldwin, et al. SYMCAQ-1965-10-423
 Bufalini and Brubaker 25QIAZ-1971-225
 Cadle, et al. CSMHAF-1974-3-115
 Daby, et al. ACSRAL-1970-160-PHYS-122
 Dean and Kistiakowsky JCPSA6-1971-54-1718
 Demerjian, et al. AESTC9-1974-4-1 (review)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Fristrom, R. M. SYMCAQ-1963-9-560
 Hampson and Garvin NBTNAE-1975-866-19 (review)
 Herron, J. T. IJCKB6-1969-1-527 (review)
 Herron and Huie JPCRB-1973-2-467 (review)
 Herron and Penzhorn JPCHAX-1969-73-191
 Huie and Herron PRKNAZ-1975-8-1 (review)
 Lavrov and Evlanov IUZTA4-1969-13-50 (review)
 Lavrov and Kiyan TP0VA7-1969-21
 Mack and Thrush JCFTAR-1973-69-208
 Moshkina, et al. BACCAT-1959-1654
 Niki, H. JCPSA6-1966-45-2330
 Niki, et al. JCPSA6-1968-48-5729
 Niki, et al. SYMCAQ-1969-12-277
 Niki, et al. ADCSAJ-1972-113-16 (review)
 Schofield, K. PLSSAE-1967-15-643 (review)
 Slotin and Style TFS0A4-1939-35-420
 Wilson, Wm. E., Jr. JPCRB-1972-1-535 (review)

$HCH\theta + \theta_2 \rightarrow$ products (overall C θ , C θ_2 , $\cdot CH\theta$, $HC\theta\theta \cdot$, ...)
 Anisonyan, et al. RJPCAR-1959-33-115
 Antonova, et al. BACCAT-1955-711
 Asaba, et al. SYMCAQ-1963-9-193
 Askey, P. J. JACSAT-1930-52-974 (mechanism)
 Axford and Norrish NATUAS-1947-160-537
 Axford and Norrish PRLAAZ-1948-192-518
 Baldwin and Walker SYMCAQ-1973-14-241 (review)
 Baldwin, et al. SYMCAQ-1971-13-251
 Barnard, J. A. ADCSAJ-1968-76-98
 Bell and Tipper PRLAAZ-1957-238-256
 Bone and Gardner PRLAAZ-1936-154-297
 De Wilde and Van Tiggelen BSCBAG-1968-77-67 (generalized mechanism)
 Drummond, L. J. CBSTB9-1971-3-47
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Enkolopyan, N. S. SYMCAQ-1959-7-157
 Fort and Hinshelwood PRLAAZ-1930-129-284
 Gay, et al. JCPSA6-1965-43-4017

HCH θ + θ_2 \rightarrow products (overall C θ , C θ_2 , \cdot CH θ , HC $\theta\theta$, ...) (Cont'd)

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|---------------------------|------------------------------------|-------------|
| Harding and Norrish | NATUAS-1949-163-797 | |
| Harding and Norrish | PRLAAZ-1952-212-291 | |
| Hay, J. M. | JCS θ A9-1965-7388 | |
| Hay and Hessam | CBFMA θ -1971-16-237 | |
| Horner, et al. | TFS θ A4-1954-50-1201 | |
| Karmilova, et al. | ZFKHA9-1956-30-798 | |
| Karmilova, et al. | RJPCAR-1960-34-562 | |
| Knox, J. H. | ARPCAW-1962-59-18 | (review) |
| Lavrov, N. V. | IGNKB θ -1967-27 | (mechanism) |
| Lewis and Von Elbe | B θ θ KA7-1961-90 | (review) |
| Markevich and Filippova | ZFKHA9-1957-31-2649 | |
| Markevich and Filippova | RJPCAR-1959-33-358 | |
| Markevich and Pecherskaya | RJPCAR-1961-35-697 | |
| Markevich, et al. | BACCAT-1958-480 | |
| Minkoff and Tipper | B θ θ KA7-1962-136 | (review) |
| Miyama and Takeyama | JCPSA6-1964-40-2049 | |
| Nalbandyan, A. B. | 28KMA4-1973-140 | |
| Norrish, R. G. W. | PRLAAZ-1935-150-36 | |
| Norrish, R. G. W. | RIFPA9-1949-4-288 | (mechanism) |
| Norrish, R. G. W. | DFS θ AW-1951-10-269 | (mechanism) |
| Norrish and Buckler | B θ θ KA7-1941-385 | (review) |
| Norrish and Foord | PRLAAZ-1936-157-503 | |
| Scheer, M. D. | JCPSA6-1955-23-1357 | |
| Scheer, M. D. | SYMCAQ-1955-5-435 | |
| Semenov, N. N. | PHZSAL-1932-1-546 | |
| Semenov, N. N. | B θ θ KA7-1959-2-217 | (review) |
| Semenov, N. | B θ θ KA7-1935-366 | (review) |
| Snowdon and Style | TFS θ A4-1939-35-426 | |
| Sochet, L.-R. | JCPBAN-1973-70-456 | |
| Spence, R. | JCS θ A9-1936-649 | |
| Vanpee, M. | BSCBAG-1953-62-285 | |
| Vanpee, M. | BSCBAG-1953-62-661 | |
| Vanpée and Grard | FUELAC-1955-34-433 | |
| Vardanyan and Nalbandyan | KICAA8-1970-11-927 | |
| Vardanyan, et al. | DKPCAG-1970-191-210 | |
| Vardanyan, et al. | CBFMA θ -1971-17-315 | |
| Vardanyan, et al. | AYKZAN-1972-25-281 | (review) |
| Vardanyan, et al. | DKPCAG-1970-191-210 | |
| Vardanyan, et al. | CBFMA θ -1974-22-153 | |
| Von Elbe and Lewis | JACSAT-1937-59-976 | (mechanism) |

HCH θ + θ_2 + H \rightarrow C θ + H $_2$ θ + θ H

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|---------------------|-----------------------------|-------------|
| Harding and Norrish | PRLAAZ-1952-212-291 | (mechanism) |
| Norrish, R. G. W. | RIFPA9-1949-4-288 | (mechanism) |
| Norrish, R. G. W. | DFS θ AW-1951-10-269 | (mechanism) |

HCH θ + H (+M) \rightarrow products (CH, \cdot CH θ , \cdot :CH $_2$, ...)

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|---------------------|------------------------------|----------|
| Baldwin, et al. | TFS θ A4-1962-58-60 | (review) |
| DeGraff and Calvert | JACSAT-1967-89-2247 | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |

HCH θ + H $_2$ \rightarrow products (\cdot :CH $_2$, CH $_3$ \cdot , CH $_3$ θ \cdot , ...)

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| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
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HCH θ + θ H \rightarrow products (C θ , \cdot CH θ , \cdot :CH $_2$, ...)

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| Baldwin and Cowe | TFS θ A4-1962-58-1768 | |
| Baldwin, et al. | SYMCAQ-1965-10-423 | |
| Blundell, et al. | SYMCAQ-1965-10-445 | |
| Bufalini and Brubaker | 25QIAZ-1971-225 | |
| Cullis, et al. | PRLAAZ-1963-276-527 | |
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| Drysdale and Lloyd | θ XCRA4-1970-4-157 | (review) |
| Drysdale and Norrish | PRLAAZ-1969-308-305 | (mechanism) |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| Enikolopyan, N. S. | SYMCAQ-1959-7-157 | |
| Fristrom, R. M. | SYMCAQ-1963-9-560 | |
| Hampson and Garvin | NBTNAE-1975-866-57 | (review) |
| Harding and Norrish | PRLAAZ-1952-212-291 | |
| Hay and Hessam | CBFMA θ -1971-16-237 | (mechanism) |
| Heicklen and Johnston | JACSAT-1962-84-4030 | |
| Herron and Penzhorn | JPCHAX-1969-73-191 | |
| Hoare, D. E. | AGAGAS-1965-86-125 | |
| Karmilova, et al. | ZFKHA9-1956-30-798 | |
| Karmilova, et al. | RJPCAR-1960-34-562 | |

- HCH θ + θ H \rightarrow products (C θ , \cdot CH θ , :CH $_2$, ...) (Cont'd)
- | | | |
|-------------------------|------------------------------------|-------------|
| Lavrov and Evlanov | IUZTA4-1969-13-50 | (review) |
| McKellar and Norrish | PRLAAZ-1960-254-147 | |
| Minkoff and Tipper | B θ θ KA7-1962-151 | (review) |
| Morris and Niki | JCPSA6-1971-55-1991 | |
| Morris and Niki | JPCHAX-1971-75-3640 | |
| Niki, et al. | ADCSAJ-1972-113-16 | (review) |
| Norrish, R. G. W. | RIFPA9-1949-4-288 | (mechanism) |
| Norrish, R. G. W. | DFS θ AW-1951-10-269 | (mechanism) |
| Peeters and Mahnen | SYMCAQ-1973-14-133 | |
| Schofield, K. | PLSSAE-1967-15-643 | (review) |
| Seery and Bowman | CBFMA θ -1970-14-37 | |
| Semenov, N. N. | B θ θ KA7-1959-2-217 | (review) |
| Sochet, L.-R. | JCPBAN-1973-70-456 | |
| Vardanyan, et al. | AYKZAN-1972-25-281 | |
| Vardanyan, et al. | CBFMA θ -1974-22-153 | |
| Von Elbe and Lewis | JACSAT-1937-59-976 | (mechanism) |
| Westenberg and Fristrom | JPCHAX-1961-65-591 | |
| Westenberg and Fristrom | SYMCAQ-1965-10-473 | |
| Wilson, Wm. E., Jr. | JPCRBV-1972-1-535 | (review) |
- HCH θ + H θ θ \cdot \rightarrow products (C θ , \cdot CH θ , CH $_3$ θ \cdot , ...)
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|--------------------------|------------------------------------|-------------|
| Baldwin, et al. | SYMCAQ-1971-13-251 | |
| Bell and Tipper | PRLAAZ-1957-238-256 | |
| Blundell, et al. | SYMCAQ-1965-10-445 | |
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| Enikolopyan, N. S. | SYMCAQ-1959-7-157 | |
| Hampson and Garvin | NBTNAE-1975-866-62 | (review) |
| Hay, J. M. | JCS θ A9-1965-7388 | |
| Hay and Hessam | CBFMA θ -1971-16-237 | |
| Hoare, D. E. | AGAGAS-1965-86-125 | |
| Horner, et al. | TFS θ A4-1954-50-1201 | |
| Karmilova, et al. | ZFKHA9-1956-30-798 | |
| Karmilova, et al. | RJPCAF-1960-34-562 | |
| Lloyd, A. C. | IJCKB θ -1974-6-169 | (review) |
| McKellar and Norrish | PRLAAZ-1960-254-147 | |
| Minkoff and Tipper | B θ θ KA7-1962-136 | |
| Minkoff and Tipper | B θ θ KA7-1962-151 | (review) |
| Norrish and Thomas | NATUAS-1966-210-728 | (mechanism) |
| Schofield, K. | PLSSAE-1967-15-643 | (review) |
| Semenov, N. N. | B θ θ KA7-1959-2-217 | |
| Sochet, L.-R. | JCPBAN-1973-70-456 | |
| Style and Summers | TFS θ A4-1946-42-388 | |
| Vardanyan and Nalbandyan | KICAA8-1970-11-927 | (mechanism) |
| Vardanyan, et al. | DKPCAG-1970-191-210 | |
| Vardanyan, et al. | DKPCAG-1970-193-498 | |
| Vardanyan, et al. | AYKZAN-1972-25-281 | |
| Vardanyan, et al. | CBFMA θ -1971-17-315 | |
| Vardanyan, et al. | CBFMA θ -1974-22-153 | |
| Von Elbe and Lewis | JACSAT-1937-59-976 | (mechanism) |
- HCH θ + H $_2$ θ \rightarrow products (CH $_3$ \cdot , CH $_3$ θ \cdot , CH $_4$, ...)
- | | | |
|-----------------|------------------------------|----------|
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
|-----------------|------------------------------|----------|
- HCH θ + CH \rightarrow \cdot CH θ + :CH $_2$ (or C θ + CH $_3$ \cdot)
- | | | |
|-----------------|------------------------------|----------|
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
|-----------------|------------------------------|----------|
- HCH θ + :CH $_2$ \rightarrow products (\cdot CH θ , CH $_3$ θ \cdot , ...)
- | | | |
|-----------------|------------------------------|----------|
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
|-----------------|------------------------------|----------|
- HCH θ + CH $_3$ \cdot \rightarrow products (\cdot CH θ , CH $_3$ θ \cdot , ...)
- | | | |
|-----------------|------------------------------|----------|
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| Pearson, G. S. | JPCHAX-1963-67-1686 | |
- HCH θ + \cdot CH θ \rightarrow CH $_3$ \cdot + C θ $_2$ (or C θ + CH $_3$ θ \cdot)
- | | | |
|-----------------|------------------------------|----------|
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
|-----------------|------------------------------|----------|
- HCH θ + HC θ θ \cdot \rightarrow \cdot CH θ + HC θ θ H
- | | | |
|-------------------|-------------------|-------------|
| Hanst and Calvert | JPCHAX-1959-63-71 | (mechanism) |
|-------------------|-------------------|-------------|

$\text{HCH}\theta + \text{HC}(\theta)\theta\theta \rightarrow \cdot\text{CH}\theta + \text{HC}(\theta)\theta\theta\text{H}$
 Minkoff and Tipper
 Scheer, M. D.
 Vardanyan and Nalbandyan
 Vardanyan, et al.

B00KA7-1962-136
 SYMCAQ-1955-5-435
 KICAA8-1970-11-927 (mechanism)
 DKPCAG-1970-191-210 (mechanism)

$\text{HCH}\theta + \text{HCH}\theta \rightarrow \cdot\text{CH}\theta + \text{CH}_3\theta$
 Engleman, V. S.

EPTSBT-1976-600/2:76:003-5/1 (review)

$\text{HCH}\theta + \text{R}\cdot \rightarrow \cdot\text{CH}\theta + \text{RH}$
 Baldwin, et al.
 DeGraff and Calvert
 Engleman, V. S.
 Hoare and Wellington
 Pearson, G. S.

TFS0A4-1960-56-802
 JACSAT-1967-89-2247
 EPTSBT-1976-600/2:76:003-5/1 (review)
 SYMCAQ-1962-8-472
 JPCHAX-1963-67-1686

$\text{HCH}\theta + \text{RH} \rightarrow \text{CH}_3\theta + \text{R}\cdot$
 Engleman, V. S.

EPTSBT-1976-600/2:76:003-5/1 (review)

$\text{HCH}\theta + \text{R}\theta \rightarrow \cdot\text{CH}\theta + \text{R}\theta\text{H}$
 Demerjian, et al.
 Dever and Calvert
 Gray, et al.
 Heicklen, J.
 Hoare and Wellington
 McMillan and Calvert
 Pearson, G. S.

AESTC9-1974-4-1 (review)
 JACSAT-1962-84-1362
 PRKNAZ-1967-4-63 (review)
 ADCSAJ-1968-76-23 (review)
 SYMCAQ-1962-8-472
 0XCRA4-1965-1-83
 JPCHAX-1963-67-1686

$\text{HC}\theta\theta\text{H} + \theta_2 \rightarrow \text{products (overall)}$
 De Wilde and Van Tiggelen

BSCBAG-1968-77-67 (generalized mechanism)

$\text{CH}_2(\theta\cdot)_2 + \theta_2 \rightarrow \text{H}\theta\theta\cdot + \text{HC}\theta\theta\cdot$
 Demerjian, et al.

AESTC9-1974-4-1 (review)

$\cdot\text{CH}_2\theta\theta\cdot + \theta_2 \rightarrow \text{CH}_2(\theta\theta\cdot)_2$ [or $\text{HCH}\theta + \theta_3$]
 Demerjian, et al.

AESTC9-1974-4-1 (review)

$\text{CH}_2(\theta\theta\cdot)_2 \rightarrow \text{CH}_2(\theta\cdot)_2 + \theta_2$
 Demerjian, et al.

AESTC9-1974-4-1 (review)

$\text{CH}_3\theta\cdot + (\text{M}) \rightarrow \text{products (CH, HCH}\theta, \dots)$
 Avramenko and Kolesnikova
 Badrian, et al.
 Engleman, V. S.
 Gray, et al.
 Sochet, et al.

DANKAS-1953-89-1037
 RJPCAR-1959-33-580
 EPTSBT-1976-600/2:76:003-5/1 (review)
 PRKNAZ-1967-4-63 (review)
 ADCSAJ-1968-76-111 (mechanism)

$\text{CH}_3\theta\cdot + \theta \rightarrow \text{products} (\cdot\text{CH}\theta, \text{:CH}_2, \text{HCH}\theta, \dots)$
 Engleman, V. S.

EPTSBT-1976-600/2:76:003-5/1 (review)

$\text{CH}_3\theta\cdot + \theta_2 \rightarrow \text{HCH}\theta + \text{H}\theta\theta\cdot$
 Demerjian, et al.
 Engleman, V. S.
 Hampson and Garvin
 Heicklen and Johnston
 Hoare and Whytock
 McMillan and Calvert
 Niki, et al.
 Simonaitis and Heicklen

AESTC9-1974-4-1 (review)
 EPTSBT-1976-600/2:76:003-5/1 (review)
 NBTNAE-1975-866-70 (review)
 JACSAT-1962-84-4030
 CJCHAG-1967-45-865
 0XCRA4-1965-1-83
 ADCSAJ-1972-113-16 (review)
 JPCHAX-1975-79-298

| | | |
|---|------------------------------|-------------|
| $\cdot\text{CH}_2\text{OH} + \text{O}_2 \rightarrow \text{HCHO} + \text{HO}_2\cdot$ [or $\cdot\text{CH}_2(\text{OO}\cdot)\text{OH}$] | | |
| Avramenko and Kolesnikova | BACCAT-1961-545 | |
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| Hoare and Whytock | CJCHAG-1967-45-2741 | |
| Knox, J. H. | ARPCAW-1962-59-18 | (review) |
| Niki, et al. | ADCSAJ-1972-113-16 | (review) |
| Wiser and Hill | SYMCAQ-1955-5-553 | (mechanism) |
| $\text{CH}_3\text{O}\cdot + \text{O}_3 \rightarrow \text{products}$ | | |
| Simonaitis and Heicklen | JPCHAX-1975-79-298 | |
| $\text{CH}_3\text{O}\cdot + \text{H} \rightarrow \text{products} (\text{:CH}_2, \text{HCHO}, \text{CH}_3\cdot, \dots)$ | | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| $\text{CH}_3\text{O}\cdot + \text{H}_2 \rightarrow \text{CH}_3\cdot + \text{H}_2\text{O}$ (or $\text{CH}_4 + \text{OH}$) | | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| $\text{CH}_3\text{O}\cdot + \text{OH} \rightarrow \text{products} (\text{HCHO}, \text{CH}_4, \text{CH}_3\text{OOH}, \dots)$ | | |
| Cathonnet and James | JCPBAN-1973-70-1171 | (mechanism) |
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| Heicklen and Johnston | JACSAT-1962-84-4030 | (mechanism) |
| $\text{CH}_3\text{O}\cdot + \text{HO}_2\cdot \rightarrow \text{CH}_3\text{OH} + \text{O}_2$ (or $\text{HC}_2\text{OOH} + \text{H}_2\text{O}$) | | |
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| Varkey and Sandler | CBFMAO-1969-13-223 | (mechanism) |
| $\text{CH}_3\text{O}\cdot + \text{H}_2\text{O} \rightarrow \text{CH}_4 + \text{HO}_2\cdot$ | | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| $\text{CH}_3\text{O}\cdot + \text{CH} \rightarrow \text{CH}_3\cdot + \cdot\text{CHO}$ [or $\text{HCHO} + \text{:CH}_2$, or $\text{CH}_4 + \text{CO}$] | | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| $\text{CH}_3\text{O}\cdot + \text{:CH}_2 \rightarrow \text{products} (\cdot\text{CHO}, \text{HCHO}, \dots)$ | | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| $\text{CH}_3\text{O}\cdot + \cdot\text{CHO} \rightarrow \text{products} (\text{HCHO}, \text{CH}_4, \dots)$ | | |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 | (review) |
| $\text{CH}_3\text{O}\cdot + \text{HC}_2\text{O}\cdot \rightarrow \text{CH}_3\text{OH} + \text{CO}_2$ | | |
| Heicklen and Johnston | JACSAT-1962-84-4030 | (mechanism) |
| $\text{CH}_3\text{O}\cdot + \text{CH}_3\text{O}\cdot \rightarrow \text{CH}_3\text{OH} + \text{HCHO}$ (or CH_3OOCH_3) | | |
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| Dever and Calvert | JACSAT-1962-84-1362 | |
| Gray, et al. | PRKNAZ-1967-4-63 | (review) |
| Hanst and Calvert | JPCHAX-1959-63-71 | (mechanism) |
| Heicklen, J. | ADCSAJ-1968-76-23 | (review) |
| Heicklen and Johnston | JACSAT-1962-84-4030 | (mechanism) |
| Hoare and Wellington | SYMCAQ-1962-8-472 | |
| Hoey and Kutschke | CJCHAG-1955-33-496 | (mechanism) |
| Mantashyan, et al. | DKPCAG-1972-202-17 | |
| McMillan and Calvert | OXRA4-1965-1-83 | |
| Parkes, D. A. | SYMCAQ-1975-15-795 | |
| Sochet, et al. | ADCSAJ-1968-76-111 | (mechanism) |
| Sokolova, et al. | DKCHAY-1969-185-298 | |
| Sokolova, et al. | KICAA8-1973-14-977 | (mechanism) |
| Thomas and Calvert | JACSAT-1962-84-4207 | |

- $\text{CH}_3\dot{\text{C}} + \text{R}\cdot \rightarrow \text{HCH}\dot{\text{C}} + \text{RH}$ (or $\text{CH}_3\dot{\text{C}}\text{R}$)
 Engleman, V. S. EPTSBT-1976-600/2:76:003-5/1 (review)
 Gray, et al. PRKNAZ-1967-4-63 (review)
 Heicklen, J. ADCSAJ-1968-76-23 (review)
 Sochet, et al. ADCSAJ-1968-76-111 (mechanism)
 Sokolova, et al. KICAA8-1973-14-977
 Thynne and Gray TFS6A4-1963-59-1149
- $\text{CH}_3\dot{\text{C}} + \text{RH} \rightarrow \text{CH}_3\dot{\text{C}}\text{H} + \text{R}\cdot$ (or $\text{CH}_3\dot{\text{C}}\text{RH}_2\cdot$)
 Antonik and Lucquin BSCFAS-1968-2796
 Badrian, et al. RJPCAR-1959-33-580
 Demerjian, et al. AESTC9-1974-4-1 (review)
 Falconer, et al. JCS6A9-1961-4285
 Gray, et al. PRKNAZ-1967-4-63 (review)
 Heicklen, J. ADCSAJ-1968-76-23 (review)
 Hoare and Wellington SYMCAQ-1962-8-472
 Hoare and Whytock CJCHAG-1967-45-865
 Karmilova, et al. ZFKHA9-1956-30-798
 Lissi, et al. IJCKB6-1975-7-625
 Mantashyan and Nalbandyan IARKAZ-1961-14-527
 Parkes, D. A. SYMCAQ-1975-15-795
 Shaw and Trotman-Dickenson JCS6A9-1960-3210
 Sokolova, et al. KICAA8-1973-14-977 (mechanism)
 Thynne and Gray TFS6A4-1963-59-1149
- $\text{CH}_3\dot{\text{C}} + \text{R}\dot{\text{C}}\cdot \rightarrow \text{HCH}\dot{\text{C}} + \text{R}\dot{\text{C}}\text{H}$
 Thomas and Calvert JACSAT-1962-84-4207
- $\text{CH}_3\dot{\text{C}} + \text{R}\dot{\text{C}}\dot{\text{C}}\cdot \rightarrow \text{HCH}\dot{\text{C}} + \text{R}\dot{\text{C}}\dot{\text{C}}\text{H}$
 Demerjian, et al. AESTC9-1974-4-1 (review)
 Dever and Calvert JACSAT-1962-84-1362
 Heicklen, J. ADCSAJ-1968-76-23 (review)
 Heicklen and Johnston JACSAT-1962-84-4030
 Mantashyan, et al. DKPCAG-1972-202-17
 Parkes, D. A. SYMCAQ-1975-15-795
 Sokolova, et al. DKCHAY-1969-185-298
 Sokolova, et al. RZKHAR-1972-5B1168
 Sokolova, et al. KICAA8-1973-14-977 (mechanism)
- $\cdot\text{CH}_2\dot{\text{C}}\text{CH} \rightarrow \text{HCH}\dot{\text{C}} + \dot{\text{C}}\text{H}$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\dot{\text{C}} + (\cdot\text{M}) \rightarrow \text{HCH}\dot{\text{C}} + \dot{\text{C}}\text{H} (\cdot\text{M})$ [or $\text{CH}_3\cdot + \dot{\text{C}}_2 (\cdot\text{M})$]
 Heicklen, J. ADCSAJ-1968-76-23 (review)
 Karmilova, et al. ZFKHA9-1956-30-798
 Kleimenov and Nalbandyan DKPCAG-1958-122-667
 Kleimenov and Nalbandyan DKPCAG-1959-124-5
 Kleimenov and Nalbandyan RCHUAU-1960-11-391
 McMillan and Calvert 6XCRA4-1965-1-83
 Mantashyan and Nalbandyan IARKAZ-1962-15-3
 Mantashyan, et al. IARKAZ-1961-14-185
 Poroikova, et al. KICAA8-1967-8-988
 Wisner and Hill SYMCAQ-1955-5-553 (mechanism)
- $\text{CH}_3\dot{\text{C}} + \dot{\text{C}}_2 \rightarrow \text{CH}_3\dot{\text{C}} + \dot{\text{C}}_3$
 Hanst and Calvert JPCHAX-1959-63-71 (mechanism)
- $\text{CH}_2(\dot{\text{C}})\dot{\text{C}}\text{H} + \dot{\text{C}}_2 \rightarrow \text{HC}\dot{\text{C}}\text{CH} + \text{H}\dot{\text{C}}\dot{\text{C}}\cdot$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\cdot\text{CH}_2\dot{\text{C}}\text{CH} + \dot{\text{C}}_2 \rightarrow \text{CH}_2(\dot{\text{C}}\dot{\text{C}})\dot{\text{C}}\text{H}$
 Demerjian, et al. AESTC9-1974-4-1 (review)

$\text{CH}_3\text{O}^\bullet + \text{O}_3 \rightarrow \text{products}$
 Simonaitis and Heicklen JPCHAX-1975-79-298

$\text{CH}_3\text{O}^\bullet + \text{OH} \rightarrow \text{CH}_3\text{OH} + \text{O}_2$ ($\text{CH}_2\text{O}^\bullet + \text{H}_2\text{O}$)
 Heicklen, J. ADCSAJ-1968-76-23 (review)
 Heicklen and Johnston JACSAT-1962-84-4030

$\text{CH}_3\text{O}^\bullet + \text{HOO}^\bullet \rightarrow \text{CH}_3\text{OOH} + \text{O}_2$ ($\text{CH}_3\text{O}^\bullet + \text{O}_2 + \text{OH}$)
 Demerjian, et al. AESTC9-1974-4-1 (review)
 Hampson and Garvin NBTNAE-1975-866-73 (review)
 Heicklen, J. ADCSAJ-1968-76-23 (review)
 Heicklen and Johnston JACSAT-1962-84-4030 (mechanism)
 Niki, et al. ADCSAJ-1972-113-16 (review)

$\text{CH}_3\text{O}^\bullet + \text{CH}_3\text{O}^\bullet \rightarrow \text{products}$ (HCHO , $\text{CH}_3\text{O}^\bullet$, CH_3OH , ...)

Allara, et al. IJCKB0-1972-4-345 (calculation)
 Allara, et al. ADCSAJ-1968-76-40
 Demerjian, et al. AESTC9-1974-4-1 (review)
 Dever and Calvert JACSAT-1962-84-1362
 Hampson and Garvin NBTNAE-1975-866-71 (review)
 Heicklen, J. ADCSAJ-1968-76-23 (review)
 Heicklen and Johnston JACSAT-1962-84-4030
 Hoey and Kutschke CJCHAG-1955-33-496 (mechanism)
 Knox, J. H. ARPCAW-1962-59-18 (review)
 Mantashyan, et al. DKPCAG-1972-202-17
 Niki, et al. ADCSAJ-1972-113-16 (review)
 Parkes, D. A. SYMCAQ-1975-15-795
 Simonaitis and Heicklen JPCHAX-1975-79-298
 Sokolova, et al. DKCHAY-1969-185-298
 Sokolova, et al. KICAA8-1973-14-977 (mechanism)
 Vardanyan and Nalbandyan AYKZAN-1969-22-549

$\text{CH}_3\text{O}^\bullet + \text{R}^\bullet \rightarrow \text{CH}_3\text{O}^\bullet + \text{RO}^\bullet$ (or CH_3OOR)
 Heicklen, J. ADCSAJ-1968-76-23 (review)

$\text{CH}_3\text{O}^\bullet + \text{RH} \rightarrow \text{CH}_3\text{OOH} + \text{R}^\bullet$ (or $\text{CH}_3\text{OORH}_2^\bullet$)

Allara, et al. IJCKB0-1972-4-345 (calculation)
 Demerjian, et al. AESTC9-1974-4-1 (review)
 Falconer, et al. JCS0A9-1961-4285
 Fisher and Tipper NATUAS-1962-195-489 (mechanism)
 Gray, J. A. JCS0A9-1952-3150 (mechanism)
 Karmilova, et al. ZFKHA9-1956-30-798
 Kleimenov and Nalbandyan DKPCAG-1958-122-667
 Kleimenov and Nalbandyan DKPCAG-1959-124-5
 Kleimenov and Nalbandyan RCBUAU-1960-11-391
 Kleimenov, et al. ZFKHA9-1956-30-794
 Mantashyan and Nalbandyan IARKAZ-1962-15-3
 Mantashyan, et al. IARKAZ-1961-14-185
 Poroikova, et al. KICAA8-1967-8-988
 Subbaratnam and Calvert JACSAT-1962-84-1113

$\text{CH}_3\text{O}^\bullet + \text{RO}^\bullet \rightarrow \text{products}$ (CH_3OOH , ...)

Demerjian, et al. AESTC9-1974-4-1 (review)
 Dever and Calvert JACSAT-1962-84-1362
 Heicklen, J. ADCSAJ-1968-76-23 (review)
 Heicklen and Johnston JACSAT-1962-84-4030
 Mantashyan, et al. DKPCAG-1972-202-17
 Parkes, D. A. SYMCAQ-1975-15-695
 Sokolova, et al. DKCHAY-1969-185-298
 Sokolova, et al. RZKHAR-1972-5B1168
 Sokolova, et al. KICAA8-1973-14-977 (mechanism)

$\text{CH}_3\text{O}^\bullet + \text{ROO}^\bullet \rightarrow \text{CH}_3\text{O}^\bullet + \text{RO}^\bullet + \text{O}_2$

Allara, et al. IJCKB0-1972-4-345 (calculation)
 Allara, et al. ADCSAJ-1968-76-40
 Baldwin and Walker CBFMA0-1973-21-55 (review)
 Parkes, D. A. SYMCAQ-1975-15-795

$\text{CH}_2(\text{O}\cdot)\text{OOH} + \text{O}_2 \rightarrow \text{HC}(\text{O})\text{OOH} + \text{HO}\text{O}\cdot$
 Demerjian, et al. AESTC9-1974-4-1 (review)

$\text{CH}_2(\text{OO}\cdot)\text{OH} + \text{HO}\text{O}\cdot \rightarrow \text{CH}_2(\text{OOH})\text{OH} + \text{O}_2$
 Demerjian, et al. AESTC9-1974-4-1 (review)

$\text{CH}_2(\text{OO}\cdot)\text{OH} + \text{RO}\text{O}\cdot \rightarrow \text{CH}_2(\text{O}\cdot)\text{OH} + \text{RO}\cdot + \text{O}_2$
 Demerjian, et al. AESTC9-1974-4-1 (review)

$\text{CH}_3\text{OH} + \text{O} \rightarrow \text{products (HCHO, CH}_3\text{O}\cdot, \text{HCOOH, ...)}$
 Avramenko and Kolesnikova DANKAS-1953-91-107
 Avramenko and Kolesnikova BACCAT-1971-20-2562
 Avramenko, et al. BACCAT-1961-552
 Herron and Huie JPCRB-1973-2-467 (review)
 Huie and Herron PRKNAZ-1975-8-1 (review)
 Knox, J. H. ARPCAW-1962-59-18 (review)
 LeFevre, et al. IJCKB-1972-4-103
 Moshkina, et al. BACCAT-1959-1654

$\text{CH}_3\text{OH} + \text{O}_2 \rightarrow \text{products (overall)}$
 Batten, J. J. AJCHAS-1964-17-172
 Batten, J. J. AJCHAS-1964-17-539
 Bell and Tipper PRLAAZ-1957-238-256
 Bone and Gardner PRLAAZ-1936-154-297
 Bunev, V. A. CESWA4-1972-8-224
 Cooke, et al. CBFMA-1971-16-233
 De Wilde and Van Tiggelen BSCBAG-1968-77-67 (generalized mechanism)
 Enikolopyan and Bel'govskii RJPCAR-1960-34-749
 Fort and Hinshelwood PRLAAZ-1930-129-284
 Minkoff and Tipper B-OKA7-1962-184 (review)
 Wisner and Hill SYMCAQ-1955-5-553 (mechanism)

$\text{CH}_3\text{OH} + \text{OH} \rightarrow \cdot\text{CH}_2\text{OH} + \text{H}_2\text{O}$
 Wisner and Hill SYMCAQ-1955-5-553 (mechanism)

$\text{CH}_3\text{OH} + \text{HO}\text{O}\cdot \rightarrow \cdot\text{CH}_2\text{OH} + \text{H}_2\text{O}_2$
 Bell and Tipper PRLAAZ-1957-238-256

$\text{CH}_3\text{OOH} \rightarrow \text{HCHO} + \text{H}_2\text{O} \text{ (or } \text{CH}_3\text{O}\cdot + \text{OH)}$
 Benson and Neal NSRDAP-1970-21-435 (review)
 Blat, et al. ACPYAR-1939-10-273
 Fisher and Tipper NATUAS-1962-195-489 (mechanism)
 Heicklen and Johnston JACSAT-1962-84-4030
 Kirk and Knox TFS-0A4-1960-56-1296

$\text{CH}_3\text{OOH} + \text{O}_3 \rightarrow \text{CH}_3\text{OH} + \text{O}_2 + \text{O}_2$
 Kleimenov and Nalbandyan DKPCAG-1958-118-9

C₂ Compounds

| | | |
|---|--------------------------|-------------|
| CH≡C • + O → CH + CO | | |
| Glass, et al. | JCPA6-1965-42-608 | |
| Williams and Smith | CHREAY-1970-70-267 | (review) |
| CH≡C • + O ₂ → CO + CO + H | | |
| → CO ₂ + CH | | |
| Bowman and Seery | CBFMA6-1968-12-611 | (mechanism) |
| Glass, et al. | JCPA6-1965-42-608 | |
| Glass, et al. | SYMCAQ-1965-10-513 | (mechanism) |
| Matsuda, et al. | JCPA6-1972-57-5277 | |
| Williams and Smith | CHREAY-1970-70-267 | (review) |
| CH≡CH + O → products (:CH ₂ , CH≡C•, •CH=C=O, ...) | | |
| Arrington, et al. | JCPA6-1965-43-525 | |
| Avramenko, et al. | BACCAT-1965-396 | |
| Bradley and Tse | TFS6A4-1969-65-2685 | |
| Brown and Thrush | TFS6A4-1967-63-630 | |
| Browne, et al. | SYMCAQ-1969-12-1035 | |
| Eberius, et al. | SYMCAQ-1973-14-147 | |
| Fenimore and Jones | JCPA6-1963-39-1514 | |
| Frazier and Kooyman | CESCAC-1968-23-353 | |
| Gaedtke, et al. | SYMCAQ-1973-14-295 | |
| Glass, et al. | JCPA6-1965-42-608 | |
| Glass, et al. | SYMCAQ-1965-10-513 | |
| Haller and Pimentel | JACSAT-1962-84-2855 | |
| Herron and Huie | JPCRB-1973-2-467 | |
| Hoyermann, et al. | ZPCFAX-1967-55-72 | |
| Hoyermann, et al. | ZPCFAX-1969-63-193 | |
| Huie and Herron | PRKNAZ-1975-8-1 | (review) |
| James and Glass | JCPA6-1969-50-2268 | |
| Jones and Bayes | JACSAT-1972-94-6869 | (mechanism) |
| Jones and Bayes | PRLAAZ-1973-335-547 | |
| Jones and Bayes | SYMCAQ-1973-14-277 | |
| Kanofsky, et al. | ACSRAL-1973-166-PHYS-140 | (mechanism) |
| Peeters and Mahnen | B00KA7-1973-53 | |
| Peeters and Vinckier | SYMCAQ-1975-15-969 | |
| Saunders and Heicklen | JPCHAX-1966-70-1950 | |
| Schofield, K. | PLSSAE-1967-15-643 | (review) |
| Stuhl and Niki | JCPA6-1971-55-3954 | |
| Sullivan and Warneck | JPCHAX-1965-69-1749 | |
| Takahashi, S. | MDPCAW-1971-11-405 | |
| Westenberg and de Haas | JPCHAX-1969-73-1181 | |
| Williams and Smith | CHREAY-1970-70-267 | (review) |
| Williamson, D. G. | JPCHAX-1971-75-4053 | (mechanism) |
| Williamson and Bayes | JPCHAX-1969-73-1232 | (mechanism) |
| CH≡CH + O ₂ → products (overall) | | |
| Bradley and Kistiakowsky | JCPA6-1961-35-264 | |
| Fenimore and Jones | JCPA6-1963-39-1514 | |
| Gardiner, W. C., Jr. | JCPA6-1961-35-2252 | |
| Homer and Kistiakowsky | JCPA6-1967-47-5290 | |
| Karpov, V. P. | APCSC3-1971-2-157 | |
| Kistiakowsky and Richards | JCPA6-1962-36-1707 | |
| Matsuda, et al. | JCPA6-1972-57-5277 | |
| Minkoff and Tipper | B00KA7-1962-151 | (review) |
| Mullins, B. P. | FUELAC-1953-32-343 | |
| Norrish and Reagh | PRLAAZ-1940-176-429 | |
| Semenov, N. | B00KA7-1935-394 | (review) |
| Shtern, V. Ya. | B00KA7-1964 | (review) |
| Spence and Kistiakowsky | JACSAT-1930-52-4837 | |
| Westenberg and Fristrom | SYMCAQ-1965-10-473 | |
| Van Wontergem and Van Tiggelen | SYMCA0-1955-5-637 | |
| White, D. R. | SYMCAQ-1967-11-147 | |
| Williams and Smith | CHREAY-1970-70-267 | (review) |
| CH≡CH + O ₃ → products | | |
| DeMore, W. B. | IJCKB0-1969-1-209 | |

CH=CH + $\theta_3 \rightarrow$ product (Cont'd)

Hanst, et al. ACPCAT-1959-136-A7
 Schofield, K. PLSSAE-1967-15-643 (review)
 Stedman and Niki EVLTAX-1973-4-303

CH=CH + $\theta H \rightarrow$ products (CH_3^\cdot , $CH=C^\cdot$, ...)

Bradley and Tse TFSOA4-1969-65-2685
 Davis, et al. JCPSA6-1975-63-1707
 Drysdale and Lloyd OXCRA4-1970-4-157 (review)
 Eberius, et al. SYMCAQ-1973-14-147
 Glass, et al. JCPSA6-1965-42-608
 Glass, et al. SYMCAQ-1965-10-513 (mechanism)
 Hampson and Garvin NBTNAE-1975-866-59 (review)
 Kanofsky, et al. ACSRAL-1973-166-PHYS-140 (mechanism)
 Pastrana V. A. DAEBBA-1974-34-5448
 Schofield, K. PLSSAE-1969-15-643 (review)
 Williams and Smith CHREAY-1970-70-267 (review)
 Wilson, Wm. E., Jr. JPCRBU-1972-1-535 (review)

CH=CH + $\cdot CH=C\theta \rightarrow$ products
 Jones and Bayes

SYMCAQ-1973-14-277

CH₂=CH \cdot + $\theta_2 \rightarrow$ products ($\cdot CH\theta$, $HCH\theta$, $CH=CH$, $CH_2=CH^\cdot$, ...)

Cooke and Williams SYMCAQ-1971-13-757 (evaluation)
 Hidaka, et al. BCSJA8-1974-47-2166
 Shtern and Polyak DANKAS-1952-85-161
 Slagle, I. R. DAEBBA-1974-35-766
 Suzuki, et al. ASACAW-1973-18-359

CH₂=CH₂ + $\theta \rightarrow$ products ($HCH\theta$, CH_3^\cdot , $CH_2=CH^\cdot$, ...)

Atkinson and Cvetanović JCPSA6-1972-56-432
 Atkinson and Pitts CHPLBC-1974-27-467
 Avramenko and Kolesnikova 18VHAX-1955-7
 Avramenko and Kolesnikova ZFKHA9-1956-30-581 (mechanism)
 Avramenko and Kolesnikova BACCAT-1971-20-2556
 Avramenko, et al. BACCAT-1963-30
 Baldwin and Walker XADRCH-1968-AD 678631
 Bradley, et al. JCFTAR-1973-69-1889
 Brown and Thrush TFSOA4-1967-63-630
 Cvetanović, R. J. JCPSA6-1955-23-1375
 Cvetanović, R. J. JCPSA6-1956-25-376
 Cvetanović, R. J. JCPSA6-1959-30-19
 Cvetanović, R. J. JCPSA6-1960-33-1063
 Cvetanović, R. J. CJCHAG-1960-38-1678
 Cvetanović, R. J. ADPCA2-1963-1-115 (review)
 Davis, et al. JCPSA6-1972-56-4868 (review)
 DeMore, W. B. CHPLBC-1972-16-608
 Elias, L. JCPSA6-1963-38-989
 Elias and Schiff CJCHAG-1960-38-1657
 Eusuf and Wagner BBPCAX-1972-76-437 (mechanism)
 Fenimore and Jones SYMCAQ-1963-9-597
 Ford and Endow JCPSA6-1957-27-1277
 Furuyama, et al. IJCKB θ -1974-6-741
 Gaedtke, et al. SYMCAQ-1973-14-295
 Hampson and Garvin NBTNAE-1975-866-19 (review)
 Havel, J. J. JACSAT-1974-96-530
 Herron and Huie JPCRBU-1973-2-467 (review)
 Huie and Herron PRKNAZ-1975-8-1 (review)
 Jaffe and Keith JCPSA6-1968-48-2805
 Kanofsky and Gutman CHPLBC-1972-15-236
 Kanofsky, et al. SYMCAQ-1973-14-285
 Kurylo and Huie JCPSA6-1973-58-1258
 Niki, et al. JCPSA6-1968-48-5729
 Niki, et al. SYMCAQ-1969-12-277
 Norrish, R. G. W. RIFPA9-1949-4-288
 Peeters and Mahnen B $\theta\theta$ KA7-1973-53
 Ponomarev, A. N. KICAA8-1966-7-214
 Saunders and Heicklen JPCHAX-1966-70-1950
 Schofield, K. PLSSAE-1967-15-643 (review)
 Slagle, et al. SYMCAQ-1975-15-785
 Slagle, et al. IJCKB θ -1974-6-111
 Stuhl and Niki JCPSA6-1971-55-3954
 Stuhl and Niki JCPSA6-1972-57-5403
 Tanaka, et al. JETAACK-1967-5-62
 Thrush, B. A. BBPCAX-1968-72-966 (mechanism)

$\text{CH}_2=\text{CH}_2 + \text{O} \rightarrow$ products (HCHO , $\text{CH}_3\cdot$, $\text{CH}_2=\text{CH}\cdot$, ...) (Cont'd)

Washida and Bayes CHPLBC-1973-23-373
 Westenberg and de Haas SYMCAQ-1969-12-289

$\text{CH}_2=\text{CH}_2 + \text{O}_2 \rightarrow$ products (overall)

Falconer, et al. JCS6A9-1961-782
 Gay, et al. JCPSA6-1967-47-313
 Harding and Norrish NATUAS-1949-163-797
 Harding and Norrish PRLAAZ-1952-212-291
 Hidaka, et al. BCSJA8-1974-47-2166
 Homer and Kistiakowsky JCPSA6-1967-47-5290
 Knox, J. H. B00KA7-1967-250 (review)
 Knox and Wells TFS6A4-1963-59-2786
 Minkoff and Tipper B00KA7-1962-151 (review)
 Norrish, R. G. W. RIFPA9-1949-4-288 (mechanism)
 Norrish and Buckler B00KA7-1941-385 (review)
 Norrish and Patnaik NATUAS-1949-163-883
 Norrish and Reagh PRLAAZ-1940-176-429
 Semenov, N. B00KA7-1935-339 (review)
 Shtern, V. Ya. B00KA7-1964 (review)
 Slagle, I. R. DABBBA-1974-35-766
 Suzuki, et al. ASACAW-1973-18-359
 Thompson and Hinshelwood PRLAAZ-1929-125-277
 Westenberg and Fristrom SYMCAQ-1965-10-473
 White, D. R. SYMCAQ-1967-11-147
 Yoshizawa and Kawada BJSEA8-1973-16-576

$\text{CH}_2=\text{CH}_2 + \text{O}_2 (+ \text{M}) \rightarrow \text{HCHO} + \text{HCHO} (+ \text{M})$

Harding and Norrish PRLAAZ-1952-212-291

$\text{CH}_2=\text{CH}_2 + \text{O}_3 \rightarrow$ products

Becker, et al. IJCKB0-1974-6-725
 Bufalini and Altshuller CJCHAG-1965-43-2243
 Cadle and Schadt JACSAT-1952-74-6002
 DeMore, W. B. IJCKB0-1969-1-209
 Hampson and Garvin NBTNAE-1975-866-31 (review)
 Hanst, et al. ACPCAT-1959-136-A7
 Herron and Huile JPCHAX-1974-78-2085
 Huile and Herron IJCKB0-1975-7-Sup. 1
 Japar, et al. JPCHAX-1974-78-2318
 Pitts and Finlayson XADRCH-1973-AD 763755
 Schofield, K. PLSSAE-1967-15-643 (review)
 Semenov, N. B00KA7-1935-339 (review)
 Stedman, et al. JPCHAX-1973-77-2511
 Vrbaski and Cvetanović CJCHAG-1960-38-1053
 Wei and Cvetanović CJCHAG-1963-41-913

$\text{CH}_2=\text{CH}_2 + \text{OH} \rightarrow$ products (HCHO , $\text{CH}_2=\text{CH}\cdot$, ...)

Baldwin and Walker XADRCH-1968-AD 678631
 Davis, et al. JCPSA6-1975-63-1707
 Drysdale and Lloyd 0XCRA4-1970-4-157 (review)
 Greiner, N. R. JCPSA6-1970-53-1284
 Hampson and Garvin NBTNAE-1975-866-58 (review)
 Harding and Norrish PRLAAZ-1952-212-291 (mechanism)
 Hoare and Patel TFS6A4-1969-65-1325
 Morris and Niki JPCHAX-1971-75-3640
 Morris, et al. ACSRAL-1970-160-PHYS-119
 Morris, et al. JACSAT-1971-93-3570
 Norrish, R. G. W. RIFPA9-1949-4-288 (mechanism)
 Pastrana V. A. DABBBA-1974-34-5448
 Schofield, K. PLSSAE-1967-15-643 (review)
 Suzuki, et al. ASACAW-1973-18-359 (mechanism)
 Westenberg and Fristrom SYMCAQ-1965-10-473
 Wilson, Wm. E., Jr. JPCRBU-1972-1-535 (review)

$\text{CH}_2=\text{CH}_2 + \text{HOO}\cdot \rightarrow$ products ($\text{CH}_3=\text{CH}\cdot$, ...)

Baldwin and Walker XADRCH-1968-AD 678631
 Hampson and Garvin NBTNAE-1975-866-63 (review)
 Hoare and Patel TFS6A4-1969-65-1325
 Lloyd, A. C. IJCKB0-1974-6-169 (review)

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|---|------------------------------|---------------|
| $\text{CH}_3\text{CH}_2 \cdot + \theta \rightarrow \text{products}$ | | |
| Herron, J. T. | IJCKB θ -1969-1-527 | (review) |
| Huie and Herron | PRKNAZ-1975-8-1 | (review) |
| $\text{CH}_3\text{CH}_2 \cdot + \theta_2 (+M) \rightarrow \text{products (HCH}\theta, \text{CH}_2=\text{CH}_2, \text{CH}_3\text{CH}\theta, \dots)$ | | |
| Allara, et al. | IJCKB θ -1972-4-345 | (calculation) |
| Atkinson, et al. | JACSAT-1973-95-7592 | (mechanism) |
| Avramenko and Kolesnikova | DANKAS-1953-89-1037 | |
| Avramenko and Kolesnikova | BACCAT-1960-755 | |
| Avramenko and Kolesnikova | BACCAT-1960-924 | |
| Baker, et al. | SYMCAQ-1971-13-291 | |
| Baldwin and Simmons | TFS θ A4-1957-53-955 | |
| Baldwin and Simmons | TFS θ A4-1957-53-964 | |
| Baldwin and Walker | SYMCAQ-1973-14-241 | (review) |
| Baldwin, et al. | SYMCAQ-1955-5-502 | |
| Baldwin, et al. | ADCSAJ-1968-76-124 | |
| Baldwin, et al. | TFS θ A4-1970-66-189 | |
| Baldwin, et al. | SYMCAQ-1971-13-251 | |
| Callear and Pereira | TFS θ A4-1963-59-2774 | (mechanism) |
| Cooke and Williams | SYMCAQ-1971-13-757 | (evaluation) |
| Cusin and James | JCPBAN-1962-59-454 | |
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| Dingley and Calvert | JACSAT-1963-85-856 | |
| Finkelstein and Noyes | DFS θ AW-1953-14-76 | |
| Geisbrecht and Daubert | IEPDAW-1975-14-159 | |
| Goldfinger, et al. | TFS θ A4-1965-61-1933 | |
| Gray, J. A. | JCS θ A9-1952-3150 | (mechanism) |
| Jolley, J. E. | JACSAT-1957-79-1537 | |
| Knox and Wells | TFS θ A4-1963-59-2801 | |
| McMillan and Calvert | θ XCRA4-1965-1-83 | (review) |
| Niki, et al. | ADCSAJ-1972-113-16 | (review) |
| Salooja, K. C. | CBFMA θ -1965-9-33 | (mechanism) |
| Sochet, et al. | BSCFAS-1968-3596 | (mechanism) |
| Taylor and Kulich | IJCKB θ -1973-5-455 | |
| $\text{CH}_3\text{CH}_2 \cdot + \theta_3 \rightarrow \text{CH}_3\text{CH}_2\theta \cdot + \theta_2$ | | |
| Atkinson, et al. | JACSAT-1973-95-7592 | (mechanism) |
| $\text{CH}_3\text{CH}_2 \cdot + \theta\text{H} (+M) \rightarrow \text{products (CH}_2=\text{CH}_2, \text{CH}_3\text{CH}_2\theta\text{H}, \dots)$ | | |
| Avramenko and Kolesnikova | DANKAS-1953-89-1037 | |
| Cooke and Williams | SYMCAQ-1971-13-757 | (evaluation) |
| Greiner, N. R. | JCPSA6-1970-53-1070 | |
| $\text{CH}_3\text{CH}_2 \cdot + \text{R}\theta \cdot \rightarrow \text{CH}_2=\text{CH}_2 + \text{R}\theta\text{H (or CH}_3\text{CH}_2\theta\text{R)}$ | | |
| Gray, et al. | PRKNAZ-1967-4-63 | (review) |
| Heicklen, J. | ADCSAJ-1968-76-23 | (review) |
| McMillan and Calvert | θ XCRA4-1965-1-83 | (review) |
| $\text{CH}_3\text{CH}_2 \cdot + \text{RCH}\theta \rightarrow \text{CH}_3\text{CH}_3 + \text{RC}(\theta) \cdot$ | | |
| Baldwin, et al. | SYMCAQ-1971-13-251 | |
| $\text{CH}_3\text{CH}_3 + \theta \rightarrow \text{products (HCH}\theta, \text{CH}_3 \cdot, \text{CH}_3\theta \cdot, \text{CH}_2=\text{CH}_2, \dots)$ | | |
| Avramenko and Kolesnikova | DANKAS-1953-89-1037 | |
| Avramenko and Kolesnikova | BACCAT-1955-345 | |
| Avramenko and Kolesnikova | 11RFAQ-1954-51 | |
| Avramenko and Kolesnikova | BACCAT-1971-20-2556 | |
| Avramenko and Kolesnikova | BACCAT-1971-20-2556 | |
| Avramenko, et al. | BACCAT-1963-557 | |
| Azatyany, et al. | DKCHAY-1962-147-973 | |
| Azatyany, et al. | DKPCAG-1963-149-312 | |
| Baldwin and Simmons | TFS θ A4-1957-53-955 | |
| Baldwin and Walker | XADRCH-1968-AD 678631 | |
| Baldwin, et al. | TFS θ A4-1970-66-189 | |
| Baldwin, et al. | SYMCAQ-1965-10-423 | |
| Bradley, et al. | JCSIAP-1971-326 | |
| Hampson and Garvin | NBTNAE-1975-866-19 | (review) |
| Herron, J. T. | IJCKB θ -1969-1-527 | (review) |
| Herron and Huie | JPCHAX-1969-73-3327 | |

$\text{CH}_3\text{CH}_3 + \text{O} \rightarrow$ products (HCHO , $\text{CH}_3\cdot$, $\text{CH}_3\text{O}\cdot$, $\text{CH}_2=\text{CH}_2$, ...) (Cont'd)

| | | |
|------------------------|---------------------|---------------|
| Herron and Huie | JPCRBU-1973-2-467 | (review) |
| Huie and Herron | PRKNAZ-1975-8-1 | (review) |
| Lin and DeMore | JPCHAX-1973-77-863 | (mechanism) |
| Mayer and Schieler | JPCHAX-1968-72-2628 | (calculation) |
| Michaud, et al. | JPCHAX-1974-78-1457 | |
| Papadopoulos, et al. | SYMCAQ-1971-13-281 | |
| Saunders and Heicklen | JPCHAX-1966-70-1950 | |
| Schofield, K. | PLSSAE-1967-15-643 | (review) |
| Westenberg and de Haas | JCPA6-1967-46-490 | |
| Wilson, Wm. E., Jr. | JPCRBU-1972-1-535 | (review) |

$\text{CH}_3\text{CH}_3 + \text{O}_2 \rightarrow$ products (overall)

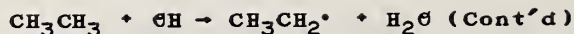
| | | |
|-------------------------------|----------------------|----------|
| Andreev and Neiman | ZFKHA9-1933-4-33 | |
| Baldwin and Simmons | TFS0A4-1955-51-680 | |
| Bone and Hill | PRLAAZ-1930-129-434 | |
| Carabine and Knox | JCS0A9-1963-862 | |
| Cooke and Williams | SYMCAQ-1971-13-757 | |
| Crossley, et al. | CBFMA0-1972-19-373 | |
| Cullis, et al. | PRLAAZ-1963-276-527 | |
| Cusin and James | JCPBAN-1962-59-454 | |
| Déchaux and Antonik | CHDCAQ-1974-278-101 | |
| Enikolopian and Korolev | DKPCAG-1958-118-115 | |
| Falconer, et al. | JCS0A9-1961-782 | |
| Gariyban, et al. | AYKZAN-1972-25-95 | |
| Geisbrecht and Daubert | IEPDAW-1975-14-159 | |
| Irvine and Knox | B00KA7-1975-733 | |
| Jacod, et al. | CHDCAQ-1969-269-1601 | |
| James, H. | RIFFA9-1958-13-338 | |
| Knox, J. H. | SYMCAQ-1959-7-122 | |
| Knox, J. H. | TFS0A4-1959-55-1362 | |
| Knox and Norrish | TFS0A4-1954-50-928 | |
| Knox and Wells | TFS0A4-1963-59-2786 | |
| Knox, et al. | TFS0A4-1958-54-1509 | |
| Kowalsky and Sadovnikov | PHZSAL-1932-1-567 | |
| Kowalsky, et al. | PHZSAL-1932-1-451 | |
| Lewis and Von Elbe | B00KA7-1961-90 | (review) |
| Locqueneux-Lefebvre and James | BSCFAS-1969-1862 | |
| Minkoff and Tipper | B00KA7-1962-151 | (review) |
| Moshkina, et al. | RZKHAR-1972-5B1155 | |
| Moshkina, et al. | KICAA8-1974-15-250 | |
| Moshkina, et al. | DKPCAG-1974-218-987 | |
| Mulcahy, M. F. R. | DFS0AW-1947-2-128 | |
| Mullins, B. P. | FUELAC-1953-32-343 | |
| Newitt and Gardner | PRLAAZ-1936-154-329 | |
| Norrish and Reagh | PRLAAZ-1940-176-429 | |
| Sadovnikov, P. | ZFKHA9-1937-9-575 | |
| Sampson, R. J. | JCS0A9-1963-5095 | |
| Semenov, N. N. | PHZSAL-1932-1-546 | |
| Semenov, N. | B00KA7-1935-309 | (review) |
| Semenov, N. N. | B00KA7-1959-2-217 | (review) |
| Shtern, V. Ya. | B00KA7-1964 | (review) |
| Sochet, et al. | JCPBAN-1966-63-1555 | |
| Taylor and Kulich | IJCKB0-1973-5-455 | |
| Watson and Darwent | JPCHAX-1957-61-577 | |
| Westenberg and Fristrom | SYMCAQ-1965-10-473 | |

$\text{CH}_3\text{CH}_3 + \text{O}_3 \rightarrow$ products

| | | |
|------------------------|------------------------|----------|
| Dillemath and Schubert | WSCPAAH-1963-No. 63-22 | |
| Morrissey, R. J. | DIASA9-1962-23-89 | |
| Morrissey and Schubert | CBFMA0-1963-7-263 | |
| Schofield, K. | PLSSAE-1967-15-643 | (review) |

$\text{CH}_3\text{CH}_3 + \text{OH} \rightarrow \text{CH}_3\text{CH}_2\cdot + \text{H}_2\text{O}$

| | | |
|---------------------|-----------------------|----------|
| Baker, et al. | SYMCAQ-1971-13-291 | |
| Baldwin and Simmons | TFS0A4-1955-51-680 | |
| Baldwin and Simmons | TFS0A4-1967-53-964 | |
| Baldwin and Simmons | TFS0A4-1957-53-955 | |
| Baldwin and Walker | XADRCH-1968-AD 678631 | |
| Baldwin, et al. | TFS0A4-1962-58-60 | |
| Baldwin, et al. | SYMCAQ-1955-5-502 | |
| Baldwin, et al. | ADCSAJ-1968-76-124 | |
| Baldwin, et al. | TFS0A4-1970-66-189 | |
| Baldwin, et al. | SYMCAQ-1965-10-423 | |
| Drysdale and Lloyd | 0XCRA4-1970-4-157 | (review) |
| Falconer, et al. | JCS0A9-1961-4285 | |



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|---|-------------------------------|
| Feaimore and Jones | SYMCAQ-1963-9-597 |
| Greiner, N. R. | JCPSA6-1967-46-3389 |
| Greiner, N. R. | JCPSA6-1968-48-1413 |
| Greiner, N. R. | JCPSA6-1970-53-1070 |
| Greiner, N. R. | JCPSA6-1970-53-1285 |
| Hampson and Garvin | NBTNAE-1975-866-58 (review) |
| Herron, J. T. | IJCKB0-1969-1-527 (review) |
| Hoare and Patel | TFS0A4-1969-65-1325 |
| Horne and Norrish | NATUAS-1967-215-1373 |
| Mantashyan and Nalbandyan | IARKAZ-1961-14-527 |
| Papadopoulos, et al. | SYMCAQ-1971-13-281 |
| Schofield, K. | PLSSAE-1967-15-643 (review) |
| Taylor and Kulich | IJCKB0-1973-5-455 (mechanism) |
| Westenberg and Fristrom | SYMCAQ-1965-10-473 |
| Wilson, Wm. E., Jr. | JPCRBU-1972-1-535 (review) |
| | |
| $\text{CH}_3\text{CH}_3 + \text{HOO}\cdot \rightarrow \text{CH}_3\text{CH}_2\cdot + \text{H}_2\text{O}_2$ | |
| Baldwin and Walker | XADRCH-1968-AD 678631 |
| Baldwin, et al. | TFS0A4-1970-66-189 |
| Baldwin, et al. | SYMCAQ-1971-13-251 |
| Hampson and Garvin | NBTNAE-1975-866-63 (review) |
| Hoare and Patel | TFS0A4-1969-65-1325 |
| Knox and Wells | TFS0A4-1963-59-2786 |
| Lloyd, A. C. | IJCKB0-1974-6-169 (review) |
| Schofield, K. | PLSSAE-1967-15-643 (review) |
| Taylor and Kulich | IJCKB0-1973-5-455 (mechanism) |
| | |
| $\text{CH}_3\text{CH}_3 + \text{R}\cdot \rightarrow \text{CH}_3\text{CH}_2\cdot + \text{RH}$ | |
| Falconer, et al. | JCS0A9-1961-4285 |
| | |
| $\text{CH}_3\text{CH}_3 + \text{R}\cdot \rightarrow \text{CH}_3\text{CH}_2\cdot + \text{R}\cdot\text{OH}$ | |
| Falconer, et al. | JCS0A9-1961-4285 |
| | |
| $\cdot\text{CH}=\text{C}=\text{O} + \text{O} \rightarrow \text{products}$ | |
| Huie and Herron | PRKNAZ-1975-8-1 (review) |
| Jones and Bayes | PRLAAZ-1973-335-547 |
| Jones and Bayes | SYMCAQ-1973-14-277 |
| | |
| $\cdot\text{CH}=\text{C}=\text{O} + \text{O}_2 \rightarrow \text{products}$ | |
| Jones and Bayes | PRLAAZ-1973-335-547 |
| | |
| $\cdot\text{CH}=\text{C}=\text{O} + \text{CH}=\text{CH} \rightarrow \text{products}$ | |
| Jones and Bayes | SYMCAQ-1973-14-277 |
| | |
| $\text{CH}_2=\text{C}=\text{O} + \text{O} \rightarrow \text{CH}_2\text{COO}$ | |
| Carr, et al. | JCPSA6-1968-49-846 |
| Jones and Bayes | PRLAAZ-1973-335-547 |
| Mack and Thrush | JCFTAR-1974-70-187 |
| | |
| $\text{CH}_2=\text{C}=\text{O} + \text{O}_3 \rightarrow \text{products}$ | |
| Hanst, et al. | ACPCAT-1959-136-A7 |
| | |
| $\text{CH}_2=\text{C}=\text{O} + \text{H} \rightarrow \text{CH}_3\cdot + \text{CO}$ | |
| Carr, et al. | JCPSA6-1968-49-846 |
| | |
| $\text{CH}_2=\text{C}=\text{O} + \text{:CH}_2 \rightarrow \text{CH}_2=\text{CH}_2 + \text{CO}$ | |
| Terao, et al. | JACSAT-1963-85-3919 |
| | |
| $\text{CH}_3\text{CHO} + \text{O}_2 \rightarrow \text{products}$ | |
| Hay, J. M. | JCS0A9-1965-7388 |
| | |
| $\text{CH}_3\text{CHO} + \text{HOO}\cdot \rightarrow \text{CO} + \cdot\text{CHO} + \text{H}_2\text{O}_2$ | |
| Hay, J. M. | JCS0A9-1965-7388 |

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| $\text{CH}_2=\text{CH}(\theta^\cdot)$, or $\cdot\text{CH}_2\text{CH}\theta$ ($\cdot\text{M}$) \rightarrow $\text{CH}=\text{CH} + \theta\text{H}$ (or $\text{CH}_2=\text{C}=\theta + \text{H}$) ($\cdot\text{M}$) | Colket, et al. Suzuki, et al. | IJCKB θ -1975-7-223 ASACAW-1973-18-359 | (mechanism) |
| $\text{CH}_3\text{C}(\theta)^\cdot$ ($\cdot\text{M}$) \rightarrow $\text{CH}_3^\cdot + \text{C}\theta$ ($\cdot\text{M}$) | Benson and θ 'Neal Calvert, J. G. Hoare and Whytock Sokoloua, et al. | NSRDAP-1970-21-589 JPCHAX-1957-61-1206 CJCHAG-1967-45-2741 KICAA8-1973-14-977 | (review) (mechanism) |
| $\text{CH}_2=\text{CH}(\theta^\cdot)$, [or $\cdot\text{CH}_2\text{CH}\theta$] + $\theta_2 \rightarrow$ products | Polyak and Shtern Suzuki, et al. | DANKAS-1954-95-1231 ASACAW-1973-18-359 | |
| $\text{CH}_3\text{C}(\theta)^\cdot + \theta_2 \rightarrow \text{CH}_3\text{C}(\theta)\theta\theta^\cdot$ | Atkinson, et al. Demerjian, et al. Hoare and Wellington Hoare and Whytock Niki, et al. Sokolova, et al. | JACSAT-1973-95-7592 AESTC9-1974-4-1 SYMCAQ-1962-8-472 CJCHAG-1967-45-2741 ADCSAJ-1972-113-16 KICAA8-1973-14-977 | (mechanism) (review) (review) (mechanism) |
| $\text{CH}_3\text{C}(\theta)^\cdot + \text{CH}_3\text{C}(\theta)^\cdot \rightarrow \text{CH}_3\text{C}(\theta)\text{C}(\theta)\text{CH}_3$ | Avery and Cvetanović Sokolova, et al. | JCPSA6-1965-43-3727 KICAA8-1973-14-977 | (mechanism) (mechanism) |
| $\text{CH}_3\text{C}(\theta)^\cdot + \text{CH}_3\text{CH}(\theta\text{H})^\cdot \rightarrow \text{CH}_3\text{CH}(\theta\text{H})\text{C}(\theta)\text{CH}_3$ [or $\text{CH}_3\text{CH}(\theta) + \text{CH}_3\text{CH}(\theta)$] | Kato and Cvetanović | CJCHAG-1967-45-1845 | |
| $\text{CH}_2=\text{CH}(\theta^\cdot)$, [or $\cdot\text{CH}_2\text{CH}\theta$] + $\text{RH} \rightarrow \text{CH}_3\text{CH}\theta + \text{R}^\cdot$ | Polyak and Shtern | DANKAS-1954-95-1231 | |
| $\text{CH}_3\text{C}(\theta)^\cdot + \text{RH} \rightarrow \text{CH}_3\text{CH}\theta + \text{R}^\cdot$ | Hoare and Wellington | SYMCAQ-1962-8-472 | |
| $\text{CH}_3\text{C}\theta\theta^\cdot \rightarrow \text{CH}_3^\cdot + \text{C}\theta_2$ | Demerjian, et al. Niki, et al. | AESTC9-1974-4-1 ADCSAJ-1972-113-16 | (review) (review) |
| $\cdot\theta\text{CH}_2\text{CH}\theta \rightarrow \text{HCH}\theta + \cdot\text{CH}\theta$ | Demerjian, et al. Geisbrecht and Daubert | AESTC9-1974-4-1 IEPDAW-1975-14-159 | (review) |
| $\text{CH}_3\text{C}\theta\theta^\cdot + \text{RH} \rightarrow \text{CH}_3\text{C}\theta\theta\text{H} + \text{R}^\cdot$ | Varkey and Sandler | CBFMA θ -1969-13-223 | (mechanism) |
| $\cdot\theta\text{CH}_2\text{CH}\theta + \text{RH} \rightarrow \text{H}\theta\text{CH}_2\text{CH}\theta + \text{R}^\cdot$ | Geisbrecht and Daubert | IEPDAW-1975-14-159 | |
| $\text{CH}_3\text{C}(\theta)\theta\theta^\cdot + \text{H}\theta\theta^\cdot \rightarrow \text{CH}_3\text{C}(\theta)\theta\theta\text{H} + \theta_2$ [or $\text{CH}_3\text{C}\theta\theta^\cdot + \theta\text{H} + \theta_2$] | Demerjian, et al. Niki, et al. | AESTC9-1974-4-1 ADCSAJ-1972-113-16 | (review) (review) |
| $\text{CH}_3\text{C}(\theta)\theta\theta^\cdot \rightarrow \text{CH}_3\theta^\cdot + \text{C}\theta_2$ | Sokolova, et al. | KICAA8-1973-14-977 | (mechanism) |

$\text{CH}_3\text{C}(\theta)\theta\theta \cdot + \text{CH}_3\text{C}(\theta)\theta\theta \cdot \rightarrow \text{CH}_3\text{C}\theta\theta \cdot + \text{CH}_3\text{C}\theta\theta \cdot + \theta_2$
 Demerjian, et al. AESTC9-1974-4-1 (review)
 McDowell and Farmer SYMCAQ-1955-5-453
 Niki, et al. ADCSAJ-1972-113-16 (review)

$\text{CH}_3\text{C}(\theta)\theta\theta \cdot + \text{CH}_3\text{CH}\theta \rightarrow \text{CH}_3\text{C}(\theta)\theta\theta\text{H} + \text{CH}_3\text{C}(\theta) \cdot$
 McDowell and Farmer SYMCAQ-1955-5-453

$\text{CH}_3\text{CH}\theta \rightarrow \text{CH}_3 \cdot + \cdot\text{CH}\theta$
 Cohen, A. XADRCH-1973-AD 769715
 Colket, et al. IJCKB θ -1975-7-223
 Eusuf and Wagner BBPCAX-1972-76-437

$\text{CH}_3\text{CH}\theta + \theta \rightarrow \text{products} (: \text{CH}_2, \text{HCH}\theta, \text{CH}_3 \cdot, \text{CH}_3\text{C}(\theta) \cdot, \dots)$
 Avery and Cvetanović JCPSA6-1965-43-3727
 Avramenko and Kolesnikova BACCAT-1971-20-2562
 Awramenko and Lorenzo CHTEAA-1953-5-193
 Avramenko and Lorentso ZFKHA9-1952-26-1084
 Avramenko, et al. BACCAT-1961-930
 Cadle and Allen 25QIAZ-1971-63
 Cadle and Powers JPCHAX-1967-71-1702
 Christie and Collins NATUAS-1968-218-1245
 Cvetanović, R. J. CJCHAG-1956-34-775
 Cvetanović, R. J. JCPSA6-1956-25-376
 Cvetanović, R. J. ADPCA2-1963-1-115 (review)
 Daby, et al. ACSRAL-1970-160-PHYS-122
 Demerjian, et al. AESTC9-1974-4-1 (review)
 Ford and Endow JCPSA6-1957-27-1277
 Herron and Huie JPCRB-1973-2-467 (review)
 Huie and Herron PRKNAZ-1975-8-1 (review)
 Mack and Thrush JCFTAR-1974-70-178
 Mayer and Schieler JPCHAX-1968-72-2628 (calculation)
 Niki, et al. ADCSAJ-1972-113-16 (review)
 Schofield, K. PLSSAE-1967-15-643 (review)

$\text{CH}_3\text{CH}\theta + \theta_2 \rightarrow \text{products (overall)}$
 Antonik and Lucquin BSCFAS-1968-4043
 Cohen, A. XADRCH-1973-AD 769715
 Cullis, et al. PRLAAZ-1963-276-527
 Filippova and Blyumberg NEFTAH-1973-13-673
 Knox, J. H. ARPCAW-1962-59-18 (review)
 McDowell and Thomas JCS θ A9-1950-1462
 Minkoff and Tipper B θ θ KA7-1962-136 (review)
 θ ganesyan, et al. DKPCAG-1973-212-728
 Ray and Waddington SYMCAQ-1971-13-261
 Ray, et al. SYMCAQ-1973-14-259
 Semenov, N. B θ θ KA7-1935-366 (review)
 Sokolova, et al. RJPCAR-1961-35-415

$\text{CH}_3\text{CH}\theta + \theta_3 \rightarrow \text{products}$
 Stedman and Niki EVLTAX-1973-4-303

$\text{CH}_3\text{CH}\theta + \theta\text{H} \rightarrow \text{CH}_3\text{C}(\theta) \cdot + \text{H}_2\theta$ (or overall)
 Avery and Cvetanović JCPSA6-1965-43-3727 (mechanism)
 Demerjian, et al. AESTC9-1974-4-1 (review)
 Drysdale and Lloyd θ XCRA4-1970-4-157 (review)
 Morris and Niki JPCHAX-1971-75-3640
 Morris, et al. JACSAT-1971-93-3570
 Morris, et al. ACSRAL-1970-160-PHYS-119
 Schofield, K. PLSSAE-1967-15-643 (review)

$\text{CH}_3\text{CH}\theta + \text{H}\theta\theta \cdot \rightarrow \text{CH}_3\text{C}(\theta) \cdot + \text{H}_2\theta_2$
 Demerjian, et al. AESTC9-1974-4-1 (review)
 Knox, J. H. ARPCAW-1962-59-18 (review)
 Sokolova, et al. RJPCAR-1961-35-415

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| $\text{CH}_3\text{CH}\theta + \text{R}\cdot \rightarrow \text{CH}_3\text{C}(\theta)\cdot + \text{RH}$ | Artsis, et al. Baldwin, et al. Cohen, A. Colket, et al. Sokolova, et al. | KICAA8-1972-13-1006 SYMCAQ-1971-13-251 XADRCH-1973-AD 769715 IJCKB\theta-1975-7-223 KICAA8-1973-14-977 (mechanism) |
| $\text{CH}_3\text{CH}\theta + \text{CH}_3\text{C}(\theta)\theta\theta\cdot \rightarrow \text{CH}_3\text{C}(\theta)\cdot + \text{CH}_3\text{C}(\theta)\theta\theta\text{H}$ | McDowell and Farmer | SYMCAQ-1955-5-453 |
| $\text{CH}_3\text{CH}\theta + \text{R}\theta\cdot \rightarrow \text{CH}_3\text{C}(\theta)\cdot + \text{R}\theta\text{H}$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}(\theta\cdot)_2 + \theta_2 \rightarrow \text{CH}_3\text{C}\theta\theta\cdot + \text{H}\theta\theta\cdot$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}(\cdot)\theta\theta\cdot + \theta_2 \rightarrow \text{CH}_3\text{CH}(\theta\theta\cdot)_2$ [or $\text{CH}_3\text{CH}\theta + \theta_3$] | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{C}(\theta)\theta\theta\text{H} \rightarrow \text{CH}_3\text{C}\theta\theta\cdot + \theta\text{H}$ | McDowell and Farmer | SYMCAQ-1955-5-453 |
| $\text{CH}_3\text{CH}(\theta\theta\cdot)_2 \rightarrow \text{CH}_3\text{CH}(\theta\cdot)_2 + \theta_2$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}_2\theta\cdot (+\text{M}) \rightarrow \text{products}$ [HCH\theta, CH ₃ CH\theta, ...] | Badrian, et al. Baldwin and Walker Benson and \theta'Neal Demerjian, et al. Geisbrecht and Daubert Gray, et al. Heicklen, J. McMillan and Calvert Poroikova and Nalbandyan Sochet, et al. | RJPCAR-1959-33-580 CBFMA\theta-1973-21-55 (review) NSRDAP-1970-21-592 (review) AESTC9-1974-4-1 (review) IEPDAW-1975-14-159 PRKNAZ-1967-4-63 (review) ADCSAJ-1968-76-23 (review) \thetaXCRA4-1965-1-83 (review) DKCHAY-1965-163-774 ADCSAJ-1968-76-111 (mechanism) |
| $\text{CH}_3\text{CH}_2\theta\cdot + \theta_2 \rightarrow \text{CH}_3\text{CH}\theta + \text{H}\theta\theta\cdot$ | Baldwin and Walker Demerjian, et al. Heicklen and Johnston Jolley, J. E. Niki, et al. Varkey and Sandler | CBFMA\theta-1973-21-55 (review) AESTC9-1974-4-1 (review) JACSAT-1962-84-4030 JACSAT-1957-79-1537 ADCSAJ-1972-113-16 (review) CBFMA\theta-1969-13-223 (mechanism) |
| $\text{CH}_3\theta\text{CH}_2\cdot + \theta_2 \rightarrow \text{CH}_3\theta\text{CH}_2\theta\theta\cdot$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}(\cdot)\theta\text{H} + \theta_2 \rightarrow \text{CH}_3\text{CH}(\theta\theta\cdot)\theta\text{H}$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\theta\text{CH}_2\cdot + \theta\text{H} \rightarrow \text{CH}_3\theta\cdot + \cdot\text{CH}_2\theta\text{H}$ | Takezaki, et al. | BCSJA8-1966-39-1643 (mechanism) |
| $\text{CH}_3\text{CH}(\cdot)\theta\text{H} + \text{CH}_3\text{CH}(\cdot)\theta\text{H} \rightarrow \text{CH}_3\text{CH}\theta + \text{CH}_3\text{CH}_2\theta\text{H}$ | Kato and Cvetanovi\theta | CJCHAG-1967-45-1845 |

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| $\text{CH}_3\text{CH}_2\dot{\sigma} + \text{RH} \rightarrow \text{CH}_3\text{CH}_2\dot{\sigma}\text{H} + \text{R}\cdot$ | Badrian, et al. Geisbrecht and Daubert Heicklen, J. Moshkina, et al. Poroikova and Nalbandyan Salooja, K. C. | RJPCAR-1959-33-580 IEPDAW-1975-14-159 ADCSAJ-1968-76-23 (review) KICAA8-1974-15-250 DKCHAY-1965-163-774 CBFMA6-1965-9-33 (mechanism) |
| $\text{CH}_3\text{CH}_2\dot{\sigma} + \text{R}\dot{\sigma} \rightarrow \text{CH}_3\text{CH}\dot{\sigma} + \text{R}\dot{\sigma}\text{H}$ | Gray, et al. McMillan and Calvert | PRKNAZ-1967-4-63 (review) 6XCRA4-1965-1-83 (review) |
| $\text{CH}_3\dot{\sigma}\text{CH}_2\cdot \rightarrow \text{HCH}\dot{\sigma} + \text{CH}_3\dot{\sigma}$ | Benson and $\dot{\sigma}$ 'Neal Demerjian, et al. | NSRDAP-1970-21-603 (review) AESTC9-1974-4-1 (review) |
| $\text{CH}_3\dot{\sigma}\text{CH}_2\dot{\sigma} \rightarrow \text{HCH}\dot{\sigma} + \text{CH}_3\dot{\sigma}$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}(\dot{\sigma})\dot{\sigma}\text{H} \rightarrow \text{CH}_3\cdot + \text{HC}\dot{\sigma}\dot{\sigma}\text{H}$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}(\cdot)\dot{\sigma}\text{H} \rightarrow \text{CH}_3\text{CH}\dot{\sigma} + \dot{\sigma}\text{H}$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}(\dot{\sigma})\dot{\sigma}\text{H} \rightarrow \text{HC}\dot{\sigma}\dot{\sigma}\text{H} + \text{CH}_3\cdot$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}_2\dot{\sigma}\dot{\sigma} \rightarrow \text{products} [\text{HCH}\dot{\sigma}, \text{CH}_3\dot{\sigma}\cdot, \text{CH}_3\text{CH}\dot{\sigma}, \dots]$ | Baldwin and Walker Geisbrecht and Daubert Goldfinger, et al. Heicklen, J. Knox and Wells Mantashyan and Nalbandyan Mantashyan and Nalbandyan Moshkina, et al. Poroikova, et al. | CBFMA6-1973-21-55 (review) IEPDAW-1975-14-159 TFS6A4-1965-61-1933 ADCSAJ-1968-76-23 (review) TFS6A4-1963-59-2801 IARKAZ-1961-14-527 IARKAZ-1962-15-3 KICAA8-1974-15-250 KICAA8-1967-8-988 |
| $\cdot\text{CH}_2\text{CH}_2\dot{\sigma}\dot{\sigma}\text{H} \rightarrow \text{CH}_3\text{CH}_2\dot{\sigma}\dot{\sigma} \cdot$ [or $\text{CH}_2=\text{CH}_2 + \text{H}\dot{\sigma}\dot{\sigma}\cdot$] | Geisbrecht and Daubert | IEPDAW-1975-14-159 |
| $\text{CH}_3\dot{\sigma}\text{CH}_2\cdot + \dot{\sigma}_2 \rightarrow \text{CH}_3\dot{\sigma}\text{CH}_2\dot{\sigma}\dot{\sigma}$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\dot{\sigma}\text{CH}_2\dot{\sigma} + \dot{\sigma}_2 \rightarrow \text{CH}_3\dot{\sigma}\text{CH}\dot{\sigma} + \text{H}\dot{\sigma}\dot{\sigma}\cdot$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}(\cdot)\dot{\sigma}\text{H} + \dot{\sigma}_2 \rightarrow \text{CH}_3\text{CH}(\dot{\sigma}\dot{\sigma})\dot{\sigma}\text{H}$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}(\dot{\sigma})\dot{\sigma}\text{H} + \dot{\sigma}_2 \rightarrow \text{CH}_3\text{C}\dot{\sigma}\dot{\sigma}\text{H} + \text{H}\dot{\sigma}\dot{\sigma}\cdot$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\cdot\text{CH}_2\text{CH}_2\dot{\sigma}\dot{\sigma}\text{H} + \dot{\sigma}_2 \rightarrow \cdot\dot{\sigma}\text{CH}_2\text{CH}_2\dot{\sigma}\dot{\sigma}\text{H}$ | Geisbrecht and Daubert | IEPDAW-1975-14-159 |

- $\text{CH}_3\text{CH}_2\text{O}^\bullet + \text{HO}^\bullet \rightarrow \text{CH}_3\text{CH}_2\text{O}^\bullet + \text{OH} + \text{O}_2$ (or $\text{CH}_3\text{CH}_2\text{OOH} + \text{O}_2$)
 Baldwin and Walker CBFMA6-1973-21-55 (review)
 Callear and Pereira TFS0A4-1963-59-2774
 Niki, et al. ADCSAJ-1972-113-16 (review)
- $\text{CH}_3\text{CH}_2\text{O}^\bullet + \text{RH} \rightarrow \text{CH}_3\text{CH}_2\text{OOH} + \text{R}^\bullet$
 Allara, et al. IJCKB6-1972-4-345 (calculation)
 Baldwin and Walker CBFMA6-1973-21-55 (review)
 Geisbrecht and Daubert IEPDAW-1975-14-159
 Gray, J. A. JCS0A9-1952-3150 (mechanism)
 Mantashyan and Nalbandyan IARKAZ-1961-14-517
 Mantashyan and Nalbandyan IARKAZ-1961-14-527
 Mantashyan and Nalbandyan IARKAZ-1962-15-3
 Poroiikova, et al. KICAA8-1967-8-988
 Salooja, K. C. CBFMA6-1965-9-33 (mechanism)
- $\text{CH}_3\text{CH}_2\text{O}^\bullet + \text{RO}^\bullet \rightarrow \text{CH}_3\text{CH}_2\text{O}^\bullet + \text{RO}^\bullet + \text{O}_2$ [or $\text{CH}_3\text{CHO} + \text{ROH} + \text{O}_2$]
 Allara, et al. IJCKB6-1972-4-345 (calculation)
 Baldwin and Walker CBFMA6-1973-21-55 (review)
 Niki, et al. ADCSAJ-1972-113-16 (review)
- $\text{CH}_3\text{OOCH}_2\text{O}^\bullet \rightarrow \text{CH}_3\text{OO}^\bullet + \text{HCHO}$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{OOCH}_2\text{O}^\bullet + \text{O}_2 \rightarrow \text{CH}_3\text{OOCHO} + \text{HO}^\bullet$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}(\text{O}^\bullet)\text{OOH} + \text{O}_2 \rightarrow \text{CH}_3\text{C}(\text{O})\text{OOH} + \text{HO}^\bullet$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{OOCH}_2\text{O}^\bullet + \text{HO}^\bullet \rightarrow \text{CH}_3\text{OOCH}_2\text{OOH} + \text{O}_2$ (or $\text{CH}_3\text{OOCH}_2\text{O}^\bullet + \text{OH} + \text{O}_2$)
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{OOCH}_2\text{O}^\bullet + \text{RO}^\bullet \rightarrow \text{CH}_3\text{OOCH}_2\text{O}^\bullet + \text{RO}^\bullet + \text{O}_2$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{O}^\bullet\text{OOCH}_2\text{CH}_2\text{OOH} \rightarrow \text{products} (\text{O}^\bullet\text{CH}_2\text{CH}_2\text{OOH} + \text{O}_2, \dots)$
 Geisbrecht and Daubert IEPDAW-1975-14-159
- $\text{CH}_3\text{OOCH}_3 \rightarrow \text{CH}_3^\bullet + \text{CH}_3\text{O}^\bullet$
 Benson and Neal NSRDAP-1970-21-414 (review)
- $\text{CH}_3\text{CH}_2\text{OH} \rightarrow \text{CH}_3^\bullet + \text{O}^\bullet\text{CH}_2\text{OH}$ (or $\text{CH}_3\text{CH}_2^\bullet + \text{OH}$)
 Lin and DeMore JPCHAX-1973-77-863
- $\text{CH}_3\text{OOCH}_3 + \text{O} \rightarrow \text{CH}_3\text{OOCH}_2^\bullet + \text{OH}$
 Herron and Huie JPCRBU-1973-2-467 (review)
 Huie and Herron PRKNAZ-1975-8-1 (review)
 LeFevre, et al. IJCKB6-1972-4-103
 Marsh and Heicklen JPCHAX-1967-71-250
 Neumann and Jonathan JCSPAC-1970-167
 Takezaki, et al. BCSJA8-1966-39-1643
 Takezaki, et al. BICRAS-1966-44-341
- $\text{CH}_3\text{CH}_2\text{OH} + \text{O} \rightarrow \text{products} [\text{HCHO}, \text{CH}_3\text{CHO}, \text{CH}_3\text{CH}_2\text{O}^\bullet, \dots]$
 Avramenko and Kolesnikova BACCAT-1971-20-2562
 Avramenko, et al. BACCAT-1967-19
 Dzotsenidze, et al. AYKZAN-1967-20-983
 Herron and Huie JPCRBU-1973-2-467 (review)

$\text{CH}_3\text{CH}_2\text{OH} + \text{O} \rightarrow \text{products} [\text{HCHO}, \text{CH}_3\text{CHO}, \text{CH}_3\text{CH}_2\text{O}^\cdot, \dots]$ (Cont'd)

Huie and Herron
Kato and Cvetanović

PRKNAZ-1975-8-1 (review)
CJCHAG-1967-45-1845

$\text{CH}_3\text{CH}_2\text{OH} + \text{O}_2 \rightarrow \text{products}$ (overall)

Cooke, et al.
Cullis and Newitt
Cullis and Newitt

CBFMA6-1971-16-233
PRLAAZ-1957-242-516
PRLAAZ-1956-237-530

$\text{CH}_3\text{OCH}_3 + \text{OH} \rightarrow \text{CH}_3\text{OCH}_2^\cdot + \text{H}_2\text{O}$

Takezaki, et al.
Takezaki, et al.

BCSJA8-1966-39-1643 (mechanism)
BICRAS-1966-44-341

$\text{CH}_3\text{OCH}_3 \rightarrow \text{CH}_3\text{O}^\cdot + \text{CH}_3\text{O}^\cdot$

Benson and O'Neal
Gray, et al.
Hanst and Calvert

NSRDAP-1970-21-427 (review)
PRKNAZ-1967-4-63 (review)
JPCHAX-1959-63-104

$\text{CH}_3\text{CH}_2\text{OOH} \rightarrow \text{CH}_3\text{CH}_2\text{O}^\cdot + \text{OH}$

Benson and O'Neal
Gray, et al.
Kirk and Knox
Salooja, K. C.

NSRDAP-1970-21-436 (review)
PRKNAZ-1967-4-63 (review)
TFS6A4-1960-56-1296
CBFMA6-1965-9-33 (mechanism)

$\text{CH}_3\text{OCH}_3 + \text{R}^\cdot \rightarrow \text{CH}_2\text{OCH}_3 + \text{RH}$

Thynne and Gray

TFS6A4-1963-59-1149

C₃ Compounds

CH₃C≡CH + θ → products

| | |
|------------------|--------------------------------------|
| Brown and Thrush | TFS0A4-1967-63-630 |
| Herron and Huie | JPCRBUR-1973-2-467 (review) |
| Huie and Herron | PRKNAZ-1975-8-1 (review) |
| Kanofsky, et al. | ACSRAL-1973-166-PHYS-140 (mechanism) |

CH₂=C=CH₂ + θ → products

| | |
|--------------|--------------------|
| Havel, J. J. | JACSAT-1974-96-530 |
|--------------|--------------------|

CH₂=C=CH₂ + θ₃ → products

| | |
|--------------------|-----------------------------|
| Hampson and Garvin | NBTNAE-1975-866-32 (review) |
| Toby, S. | JLUMA8-1973-8-94 |
| Toby and Toby | IJCKB0-1974-6-417 |

CH₃C≡CH + θH → products

| | |
|------------------|--------------------------------------|
| Bradley, et al. | JCFTAR-1973-69-1889 |
| Kanofsky, et al. | ACSRAL-1973-166-PHYS-140 (mechanism) |

CH₂=C=CH₂ + θH → products

| | |
|-----------------|---------------------|
| Bradley, et al. | JCFTAR-1973-69-1889 |
|-----------------|---------------------|

CH₂=CHCH₂· + θ₂ → CH₂=CHCH₂θθ·

| | |
|-------------------|--------------------------|
| Burke, et al. | CBFMA0-1963-7-83 |
| Demerjian, et al. | AESTC9-1974-4-1 (review) |

CH₃CH=CH₂ + θ → products [HCHθ, CH₃CHθ, CH₂=CHCH₂·, ...]

| | |
|---------------------------|--------------------------------|
| Altshuller, et al. | ESTHAG-1967-1-899 |
| Atkinson and Cvetanović | JCPA6-1971-55-659 |
| Atkinson and Cvetanović | JCPA6-1972-56-432 |
| Atkinson and Pitts | CHPLBC-1974-27-467 |
| Avramenko and Kolesnikova | 18VHAX-1955-7 |
| Avramenko and Kolesnikova | BACCAT-1971-20-2556 |
| Avramenko, et al. | BACCAT-1963-30 |
| Azatyian, et al. | IARKAZ-1964-17-117 |
| Cvetanović, R. J. | CJCHAG-1958-36-623 |
| Cvetanović, R. J. | ADPCA2-1963-1-115 (review) |
| Cvetanović, R. J. | JCPA6-1959-30-19 |
| Cvetanović, R. J. | CJCHAG-1960-38-1678 (review) |
| Demerjian, et al. | AESTC9-1974-4-1 (review) |
| DeMore, W. B. | CHPLBC-1972-16-608 |
| Furuyama, et al. | IJCKB0-1974-6-741 |
| Gaedtke, et al. | SYMCAQ-1973-14-295 |
| Havel, J. J. | JACSAT-1974-96-530 |
| Herron and Huie | JPCRBUR-1973-2-467 (review) |
| Hughes, et al. | JPCHAX-1966-70-798 |
| Huie and Herron | PRKNAZ-1975-8-1 (review) |
| Jaffe and Grant | JCPA6-1969-50-3477 |
| Kanofsky and Gutman | CHPLBC-1972-15-236 (mechanism) |
| Kanofsky, et al. | SYMCAQ-1973-14-285 (mechanism) |
| Klein and Scheer | JPCHAX-1968-72-616 |
| Kurylo, M. J. | CHPLBC-1972-14-117 |
| Niki, et al. | ADCSAJ-1972-113-16 (review) |
| Orlov and Ponomarev | KICAA8-1966-7-372 |
| Saunders and Hecklen | JPCHAX-1966-70-1950 |
| Stuhl and Niki | JCPA6-1971-55-3954 |

CH₃CH=CH₂ + θ₂ → products (overall)

| | |
|---------------------|---------------------|
| Antonik and Lucquin | BSCFAS-1968-4043 |
| Artsis, et al. | KICAA8-1972-13-1006 |
| Bawn and Skirrow | SYMCAQ-1955-5-521 |
| Brown and Tipper | CBFMA0-1968-12-79 |
| Burke, et al. | CBFMA0-1963-7-83 |

$\text{CH}_3\text{CH}=\text{CH}_2 + \text{O}_2 \rightarrow \text{products (overall)} \text{ (Cont'd)}$

| | | |
|-------------------------|---------------------|----------|
| Carabine and Knox | JCS0A9-1963-862 | |
| Cullis and Mulcahy | RIFPA9-1949-4-283 | |
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| Falconer, et al. | JCS0A9-1961-782 | |
| Falconer, et al. | JCS0A9-1961-4285 | |
| Filippova and Blyumberg | NEFTAH-1973-13-673 | |
| Filippova and Blyumberg | NEFTAH-1974-14-612 | |
| Filippova and Blyumberg | RZKHAR-1972-5B1154 | |
| Korablev, et al. | NEFTAH-1974-14-742 | |
| Lukovnikov and Neiman | DANKAS-1953-91-581 | |
| Minkoff and Tipper | B00KA7-1962-151 | (review) |
| Mulcahy, M. F. R. | TFS0A4-1949-45-575 | |
| Mullen and Skirrow | PRLAAZ-1958-244-312 | |
| Neiman, et al. | KICAA8-1960-1-319 | |
| Nguyen, et al. | BSCFAS-1970-2150 | |
| Norrish and Porter | PRLAAZ-1963-272-164 | |
| Norrish and Reagh | PRLAAZ-1940-176-429 | |
| Polyak and Shtern | ZFKHA9-1953-27-341 | |
| Polyak and Shtern | ZFKHA9-1953-27-631 | |
| Seakins, M. | PRLAAZ-1961-261-281 | |
| Seakins and Hinshelwood | PRLAAZ-1963-276-324 | |
| Shtern, V. Ya. | B00KA7-1964 | (review) |
| Shtern and Polyak | DANKAS-1949-65-311 | |
| Shtern and Polyak | DANKAS-1949-66-235 | |
| Shtern and Polyak | DANKAS-1952-85-161 | |

$\text{CH}_3\text{CH}=\text{CH}_2 + \text{O}_3 \rightarrow \text{products}$

| | | |
|------------------------|----------------------|----------|
| Altshuller, et al. | ESTHAG-1967-1-899 | |
| Becker, et al. | IJCKB0-1974-6-725 | |
| Cadle and Schadt | JACSAT-1952-74-6002 | |
| Cox and Penkett | JCF TAR-1972-68-1735 | |
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| Hampson and Garvin | NBTNAE-1975-866-32 | (review) |
| Hanst, et al. | ACPCAT-1959-136-A7 | |
| Herron and Huie | JPCHAX-1974-78-2085 | |
| Huie and Herron | IJCKB0-1975-7-Sup. 1 | |
| Japar, et al. | JPCHAX-1974-78-2318 | |
| Niki, et al. | ADCSAJ-1972-113-16 | (review) |
| Stedman, et al. | JPCHAX-1973-77-2511 | |
| Vrbaski and Cvetanović | CJCHAG-1960-38-1053 | |
| Wei and Cvetanović | CJCHAG-1963-41-913 | |

$\text{CH}_3\text{CH}=\text{CH}_2 + \text{OH} \rightarrow \text{products} [\text{CH}_2=\text{CHCH}_2\cdot, \text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{OH}, \dots]$

| | | |
|--------------------|--------------------------|----------|
| Bradley, et al. | JCF TAR-1973-69-1889 | |
| Burke, et al. | CBFMA0-1963-7-83 | |
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| Hampson and Garvin | NBTNAE-1975-866-59 | (review) |
| Morris and Niki | JPCHAX-1971-75-3640 | |
| Morris, et al. | ACSRAL-1970-160-PHYS-119 | |
| Morris, et al. | JACSAT-1971-93-3570 | |
| Niki, et al. | ADCSAJ-1972-113-16 | (review) |
| Pastrana V. A. | DABBA-1974-34-5448 | |
| Stuhl, F. | ZENAAU-1973-28-1383 | |

$\text{CH}_3\text{CH}=\text{CH}_2 + \text{H00}\cdot \rightarrow \text{CH}_2=\text{CHCH}_2\cdot + \text{H}_2\text{O}_2 [\text{or } \text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{OH}]$

| | | |
|-------------------|-----------------|----------|
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
|-------------------|-----------------|----------|

$\text{CH}_3\text{CH}_2\text{CH}_2\cdot [\text{or } (\text{CH}_3)_2\text{CH}\cdot] + \text{O}_2 \rightarrow \text{products}$

| | | |
|------------------------|---------------------|-------------|
| Aleksishvili, et al. | DKPCAG-1972-203-318 | |
| Atkinson, et al. | JACSAT-1973-95-7592 | (mechanism) |
| Baker, et al. | TFS0A4-1970-66-3016 | |
| Baker, et al. | SYMCAQ-1971-13-291 | |
| Baldwin and Walker | SYMCAQ-1973-14-241 | (review) |
| Baldwin, et al. | SYMCAQ-1955-5-502 | |
| Baldwin, et al. | SYMCAQ-1971-13-251 | |
| Baldwin, et al. | JCF TAR-1973-69-826 | |
| Brokaw and Jackson | SYMCAQ-1955-5-563 | |
| Demerjian, et al. | AESTC9-1974-4-1 | |
| Falconer and Knox | PRLAAZ-1959-250-493 | |
| Fok and Nalbandyan | DANKAS-1952-86-589 | (mechanism) |
| Knox, J. H. | TFS0A4-1959-55-1362 | (mechanism) |
| Knox, J. H. | TFS0A4-1960-55-1225 | (mechanism) |
| Lefebvre, M. | RIFPA9-1964-19-1 | |
| Lefebvre and Lucquin : | JCPBAN-1965-62-784 | |

- $\text{CH}_3\text{CH}_2\text{CH}_2^\bullet$ [or $(\text{CH}_3)_2\text{CH}^\bullet$] + $\text{O}_2 \rightarrow$ products (Cont'd)
- | | | |
|----------------------|---------------------|-------------|
| Sachyan, et al. | DKCHAY-1972-204-482 | (mechanism) |
| Satterfield and Reid | JPCHAX-1955-59-283 | |
| Sochet, et al. | ADCSAJ-1968-76-111 | (mechanism) |
| Sochet, et al. | BSCFAS-1968-3596 | (mechanism) |
- $\text{CH}_3\text{CH}_2\text{CH}_2^\bullet$ [or $(\text{CH}_3)_2\text{CH}^\bullet$] + $\text{OH} \rightarrow$ products
- | | | |
|----------------|---------------------|--|
| Greiner, N. R. | JCPSA6-1970-53-1070 | |
|----------------|---------------------|--|
- $\text{CH}_3\text{CH}_2\text{CH}_2^\bullet$ [or $(\text{CH}_3)_2\text{CH}^\bullet$] + $\text{ROO}^\bullet \rightarrow$ products
- | | | |
|--------------|------------------|--|
| Lefebvre, M. | RIFPA9-1964-19-1 | |
|--------------|------------------|--|
- $\text{CH}_3\text{CH}_2\text{CH}_3 + \text{O} \rightarrow$ products ($\text{CH}_3\text{CH}_2\text{CH}_2^\bullet$, $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$, ...)
- | | | |
|--------------------------------|---------------------|---------------|
| Avramenko and Kolesnikova | 11RFAQ-1954-51 | |
| Azatyany, et al. | DANAAW-1963-36-23 | |
| Baldwin, et al. | SYMCAQ-1965-10-423 | |
| Herron and Huie | JPCRBU-1973-2-467 | (review) |
| Mayer and Schieler | JPCHAX-1968-72-2628 | (calculation) |
| Michaud, et al. | JPCHAX-1974-78-1457 | |
| Paraskevopoulos and Cvetanović | JACSAT-1969-91-7572 | |
| Saunders and Heicklen | JPCHAX-1966-70-1950 | |
| Schofield, K. | PLSSAE-1967-15-643 | (review) |
| Wilson, Wm. E., Jr. | JPCRBU-1972-1-535 | (review) |
| Yamazaki and Cvetanović | JCPSA6-1964-41-3703 | |
- $\text{CH}_3\text{CH}_2\text{CH}_3 + \text{O}_2 \rightarrow$ products (overall)
- | | | |
|--------------------------|----------------------|-----------------|
| Alaverdyan, et al. | DKCHAY-1972-204-436 | |
| Aleksishvili, et al. | DKPCAG-1972-203-318 | |
| Aleksishvili, et al. | KICAA8-1974-15-256 | |
| Aleksishvili, et al. | RZKHAR-1972-3N4 | |
| Antonik and Lucquin | BSCFAS-1968-4043 | |
| Antonovskii and Shtern | DANKAS-1951-78-303 | |
| Badrian, et al. | RJPCAR-1959-33-580 | |
| Bonner and Tipper | CBFMA6-1965-9-387 | |
| Bonner and Tipper | SYMCAQ-1965-10-145 | |
| Brokaw and Jackson | SYMCAQ-1955-5-563 | |
| Brown and Tipper | CBFMA6-1968-12-79 | |
| Carabine and Knox | JCS0A9-1963-862 | |
| Chernyak and Shtern | DANKAS-1951-78-91 | |
| Chernyak, et al. | ZFKHA9-1954-28-240 | |
| Crescitelli, et al. | CINMAB-1973-55-945 | |
| Crossley, et al. | CBFMA6-1972-19-373 | |
| Falconer and Knox | PRLAAZ-1959-250-493 | |
| Falconer, et al. | JCS0A9-1961-782 | |
| Falconer, et al. | JCS0A9-1961-4285 | |
| Garibyan, et al. | AYKZAN-1972-25-95 | |
| Griffiths, J. F. | JCCCAT-1969-483 | |
| Irvine and Knox | B00KA7-1975-733 | |
| Karpov, V. P. | APCSC3-1971-2-157 | |
| Kleimenov and Nalbandyan | DKPCAG-1958-122-635 | |
| Knox, J. H. | SYMCAQ-1959-7-122 | |
| Knox, J. H. | TFS0A4-1959-55-1362 | |
| Knox, J. H. | TFS0A4-1960-56-1225 | |
| Knox, J. H. | B00KA7-1967-250 | (review) |
| Knox and Norrish | PRLAAZ-1954-221-151 | |
| Knox and Turner | JCS0A9-1965-3491 | |
| Knox, et al. | TFS0A4-1958-54-1509 | |
| Ksandopulo, et al. | RZKHAR-1973-9B1017 | |
| Levy, A. | SYMCAQ-1955-5-495 | |
| Lewis and Von Elbe | B00KA7-1961-90 | (review) |
| Mahajan, S. | DABBBB-1973-34-200 | |
| Malherbe and Walsh | TFS0A4-1950-46-835 | |
| Mantashyan, et al. | DKPCAG-1972-204-532 | |
| Martin, et al. | C0REAF-1962-254-1786 | |
| Mulcahy, M. F. R. | DFS0AW-1947-2-128 | |
| Myers and Bartle | AIJAH-1969-7-1862 | |
| Nagiev and Mamed'yarov | AZKZAU-1973-65 | |
| Nalbandyan, A. B. | 28KMA4-1972-140 | |
| Nguyen, et al. | BSCFAS-1970-2150 | |
| Norrish and Reagh | PRLAAZ-1940-176-429 | |
| Ogorodnikov, et al | KICAA8-1969-10-998 | (related paper) |
| Pease, R. N. | JACSAT-1938-60-2244 | |
| Podgrebenkov and Kogarko | FGVZA7-1974-10-691 | |
| Poltorak, V. A. | RJPCAR-1961-35-137 | |
| Poltorak and Voevodskii | RJPCAR-1961-35-82 | |

$\text{CH}_3\text{CH}_2\text{CH}_3 + \text{O}_2 \rightarrow \text{products (overall)}$ (Cont'd)

| | | |
|--------------------------|---------------------|-------------|
| Puechberty and Cottereau | CHDCAO-1974-279-537 | |
| Repa and Shtern | DANKAS-1953-91-309 | |
| Repa and Shtern | ZFKHA9-1954-28-414 | |
| Revzin, et al. | ZFKHA9-1954-28-985 | |
| Sachyan, et al. | DKCHAY-1972-204-482 | |
| Satterfield and Reid | SYMCAO-1955-5-511 | |
| Satterfield and Wilson | IECHAD-1954-46-1001 | (mechanism) |
| Seakins and Hinshelwood | PRLAAZ-1963-276-324 | |
| Semenov, N. | BØØKA7-1935-325 | (review) |
| Semenov, N. N. | BØØKA7-1959-2-217 | (review) |
| Shtern, V. Ya. | BØØKA7-1964 | (review) |
| Shtern, V. Ya. | 11 RFAO-1954-89 | |
| Shvartsman, et al. | 27 PGA4-1970-90 | |
| Sochet and Lucquin | JCPBAN-1965-62-796 | |
| Sochet, et al. | JCPBAN-1966-63-1555 | |
| Sochet, et al. | ADCSAJ-1968-76-111 | |
| Sochet, et al. | BSCFAS-1968-3596 | |
| Newitt and Thornes | JCSØA9-1937-1669 | |
| Walburn, P. G. | CBFMAØ-1968-12-550 | |
| Zimont and Trushin | CESWA4-1967-3-51 | |

$\text{CH}_3\text{CH}_2\text{CH}_3 + \text{O}_3 \rightarrow \text{products}$

| | | |
|------------------------|-----------------------|-------------|
| Dardin, V. J. | DIASA9-1962-23-960 | (mechanism) |
| Dardin and Albright | IEPDAW-1965-4-61 | (mechanism) |
| Dillemuth and Schubert | WSCPAH-1963-No. 63-22 | |
| Morrissey, R. J. | DIASA9-1962-23-89 | |
| Morrissey and Schubert | CBFMAØ-1963-7-263 | |
| Schubert and Pease | JACSAT-1956-78-2044 | |
| Schubert and Pease | JCPSA6-1956-24-919 | |

$\text{CH}_3\text{CH}_2\text{CH}_3 + \text{OH} \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2 \cdot$ [or $(\text{CH}_3)_2\text{CH} \cdot$] + H_2O

| | | |
|-------------------------|----------------------|-------------|
| Baker, et al. | TFSØA4-1970-66-3016 | |
| Baker, et al. | SYMCAO-1971-13-291 | |
| Baldwin, et al. | SYMCAO-1955-5-502 | |
| Baldwin, et al. | SYMCAO-1965-10-423 | |
| Bradley, et al. | JCF TAR-1973-69-1889 | |
| Drysdale and Lloyd | ØXCRA4-1970-4-157 | (review) |
| Greiner, N. R. | JCPSA6-1967-46-3389 | |
| Greiner, N. R. | JCPSA6-1970-53-1070 | |
| Sachyan, et al. | DKCHAY-1972-204-482 | (mechanism) |
| Schofield, K. | PLSSAE-1967-15-643 | (review) |
| Wilson, Wm. E., Jr. | JPCRBU-1972-1-535 | (review) |
| Yamazaki and Cvetanovič | JCPSA6-1964-41-3703 | |

$\text{CH}_3\text{CH}_2\text{CH}_3 + \text{HØØ} \cdot \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2 \cdot$ [or $(\text{CH}_3)_2\text{CH} \cdot$] + H_2O_2

| | | |
|--------------------|---------------------|-------------|
| Alaverdyan, et al. | DKCHAY-1972-204-436 | |
| Baldwin, et al. | SYMCAO-1971-13-251 | |
| Brokaw and Jackson | SYMCAO-1955-5-563 | |
| Hampson and Garvin | NBTNAE-1975-866-63 | (review) |
| Knox, J. H. | TFSØA4-1959-55-1362 | (mechanism) |
| Knox, J. H. | TFSØA4-1960-56-1225 | (mechanism) |
| Lloyd, A. C. | IJCKBØ-1974-6-169 | (review) |
| Sachyan, et al. | DKCHAY-1972-204-482 | (mechanism) |
| Sochet, et al. | ADCSAJ-1968-76-111 | (mechanism) |

$\text{CH}_2=\text{CHCHØ} + \text{O} \rightarrow \text{products}$

| | |
|-----------------|----------------|
| Cadle and Allen | 25QIAZ-1971-63 |
|-----------------|----------------|

$\text{CH}_2=\text{CHCHØ} + \text{O}_3 \rightarrow \text{products}$

| | |
|---------------|--------------------|
| Hanst, et al. | ACPCAT-1959-136-A7 |
|---------------|--------------------|

$\text{CH}_3\text{CH}_2\text{C}(\text{Ø}) \cdot (\cdot\text{M}) \rightarrow \text{CH}_3\text{CH}_2 \cdot + \text{CØ} (\cdot\text{M})$

| | |
|-------------------|---------------------|
| Baldwin, et al. | SYMCAO-1971-13-251 |
| Hoare and Whytock | CJCHAG-1967-45-2841 |

$\text{CH}_2=\text{CHCH}_2\text{Ø} \cdot + \text{O}_2 \rightarrow \text{CH}_2=\text{CHCHØ} + \text{HØØ} \cdot$

| | | |
|-------------------|-----------------|----------|
| Demerjian, et al. | AESTC9-1974-4-1 | (review) |
|-------------------|-----------------|----------|

| | | |
|--|--|---|
| $\text{CH}_3\text{CH}_2\text{C}(\theta) \cdot + \theta_2 \rightarrow \text{CH}_3\text{CH}_2\theta \cdot + \text{C}\theta_2$ | Baldwin, et al. Demerjian, et al. Hoare and Whytock | SYMCAQ-1971-13-251 AESTC9-1974-4-1 (review) CJCHAG-1967-45-2841 |
| $\text{CH}_2\text{CH}=\text{CH}_2\theta\theta \cdot \rightarrow \text{products}$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{C}(\theta)\text{CH}_2\theta \cdot \rightarrow \text{HCH}\theta + \text{CH}_3\text{C}(\theta) \cdot$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}_2\text{C}\theta\theta \cdot \rightarrow \text{CH}_3\text{CH}_2 \cdot + \text{C}\theta_2$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}(\theta) \text{CH}\theta \rightarrow \cdot\text{CH}\theta + \text{CH}_3\text{CH}\theta$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $(\text{CH}_3)_2\text{C}\theta \rightarrow \text{CH}_3 \cdot + \text{CH}_3\text{C}(\theta) \cdot$ | Benson and θ' Neal | NSRDAP-1970-21-416 (review) |
| $\text{CH}_3\text{CH}(\cdot)\text{CH}_2\theta \cdot \rightarrow \text{products}$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}_2\text{CH}\theta + \theta \rightarrow \text{products} (\text{HCH}\theta, \text{CH}_3\text{CH}_2\text{C}\theta\theta\text{H}, \dots)$ | Avramenko, et al. Cadle and Allen Herron and Huie | BACCAT-1967-19 25QIAZ-1971-63 JPCRBU-1973-2-467 (review) |
| $\text{CH}_3\text{CH}_2\text{CH}\theta + \theta_2 \rightarrow \text{CH}_3\text{CH}_2\text{C}(\theta) \cdot + \text{H}\theta\theta \cdot$ | Baldwin and Walker Baldwin, et al. Baldwin, et al. | XADRCH-1968-AD 678631 SYMCAQ-1971-13-251 TFS0A4-1969-65-792 |
| $(\text{CH}_3)_2\text{C}\theta + \theta_2 \rightarrow \text{products (overall)}$ | Barnard, J. A. Barnard and Sheikh | ADCSAJ-1968-76-98 (review) PSIRAA-1973-16-93 |
| $\cdot\text{CH}_2\text{CH}_2\text{CH}_2\theta \cdot + \theta_2 \rightarrow \text{CH}_3\text{CH}(\theta) \text{CH}_2\theta\theta \cdot [\text{or } \text{CH}_3\text{CH}(\theta\theta) \text{CH}_2\theta \cdot]$ | Demerjian, et al. | AESTC9-1974-4-1 (review) |
| $\text{CH}_3\text{CH}_2\text{CH}\theta + \theta\text{H} \rightarrow \text{CH}_3\text{CH}_2\text{C}(\theta) \cdot + \text{H}_2\theta$ | Demerjian, et al. Drysdale and Lloyd Morris and Niki | AESTC9-1974-4-1 (review) θ XCRA4-1970-4-157 (review) JPCHAX-1971-75-3640 |
| $\text{CH}_3\text{CH}_2\text{CH}\theta + \text{H}\theta\theta \cdot \rightarrow \text{CH}_3\text{CH}_2\text{C}(\theta) \cdot + \text{H}_2\theta_2$ | Baldwin and Walker Baldwin, et al. Baldwin, et al. | XADRCH-1968-AD 678631 SYMCAQ-1971-13-251 TFS0A4-1969-65-792 |
| $(\text{CH}_3)_2\text{C}\theta + \text{R} \cdot \rightarrow \text{CH}_3\text{C}(\theta)\text{CH}_2 \cdot + \text{RH}$ | Barnard and Cohen | TFS0A4-1968-64-396 |
| $\text{CH}_3\text{CH}_2\text{CH}\theta + \text{R} \cdot \rightarrow \text{CH}_3\text{CH}_2\text{C}(\theta) \cdot + \text{RH}$ | Baldwin, et al. | JCFTAR-1973-69-826 |

- $(\text{CH}_3)_2\text{C}(\cdot\text{O})_2 \rightarrow \text{CH}_3\cdot + \text{CH}_3\text{CO}\cdot$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $(\text{CH}_3)_2\text{C}(\cdot)\text{OO}\cdot + \text{O}_2 \rightarrow (\text{CH}_3)_2\text{CO} + \text{O}_3$ [or $(\text{CH}_3)_2\text{C}(\text{OO}\cdot)_2$]
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{OO}\cdot \rightarrow \text{CH}_3\text{CHO} + \cdot\text{CH}_2\text{OO}\cdot$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}(\text{OO}\cdot)\text{CH}_2\text{OO}\cdot \rightarrow \text{HCHO} + \text{CH}_3\text{CH}(\cdot)\text{OO}\cdot$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $(\text{CH}_3)_2\text{C}(\text{OO}\cdot)_2 \rightarrow (\text{CH}_3)_2\text{C}(\cdot\text{O})_2 + \text{O}_2$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{OO}\cdot$ [or $(\text{CH}_3)_2\text{CHOO}\cdot$] $\rightarrow \text{CH}_3\text{CH}_2\cdot + \text{HCHO}$ [or $\text{CH}_3\cdot + \text{CH}_3\text{CHO}$]
 Benson and Neal NSRDAP-1970-21-594 (review)
 Demerjian, et al. AESTC9-1974-4-1 (review)
 Gray, et al. PRKNAZ-1967-4-63 (review)
 Heicklen, J. ADCSAJ-1968-76-23 (review)
 Lefebvre, M. RIFPA9-1964-19-1
 Lefebvre and Lucquin JCPBAN-1965-62-784
 Sochet, et al. ADCSAJ-1968-76-111 (mechanism)
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{OO}\cdot + \text{O}_2 \rightarrow \text{CH}_3\text{CH}_2\text{CH}(\cdot\text{O}) + \text{HO}\cdot$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{OH} + \text{O}_2 \rightarrow \text{CH}_3\text{CH}(\text{OO}\cdot)\text{CH}_2\text{OH}$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\cdot + \text{O}_2 \rightarrow \text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{OO}\cdot$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{OOCH}(\cdot)\text{CH}_3 + \text{O}_2 \rightarrow \text{CH}_3\text{OOCH}(\text{OO}\cdot)\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{OH} + \text{O}_2 \rightarrow \text{CH}_3\text{CH}(\text{OO}\cdot)\text{CH}_2\text{OH}$
 Niki, et al. ADCSAJ-1972-113-16 (review)
- $(\text{CH}_3)_2\text{C}(\cdot)\text{OH} + \text{O}_2 \rightarrow (\text{CH}_3)_2\text{C}(\text{OO}\cdot)\text{OH}$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $(\text{CH}_3)_2\text{CHO}\cdot + \text{R}\cdot \rightarrow (\text{CH}_3)_2\text{CO} + \text{RH}$
 Heicklen, J. ADCSAJ-1968-76-23 (review)
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{OO}\cdot$ [or $(\text{CH}_3)_2\text{CHOO}\cdot$] $+ \text{RH} \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ [or $(\text{CH}_3)_2\text{CHOH}$] $+ \text{R}\cdot$
 Gray, et al. PRKNAZ-1967-4-63 (review)
 Lefebvre, M. RIFPA9-1964-19-1
 Lefebvre and Lucquin JCPBAN-1965-62-784
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{OO}\cdot$ [or $(\text{CH}_3)_2\text{CHOO}\cdot$] \rightarrow products
 Badrian, et al. RJPCAR-1959-33-580
 Poroikova, et al. KICAA8-1967-8-988
 Sochet, et al. BSCFAS-1968-3596 (mechanism)

| | | | |
|--|--|---|----------------------|
| $\text{CH}_3\text{C}(\cdot)\text{CH}_3 \rightarrow \text{CH}_3\cdot + \text{CH}_3\text{C}\cdot$ | Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| $\text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{C}\cdot \rightarrow \text{CH}_3\text{C}\cdot + \cdot\text{CH}_2\text{C}\cdot$ | Demerjian, et al. Niki, et al. | AESTC9-1974-4-1 ADCSAJ-1972-113-16 | (review) (review) |
| $(\text{CH}_3)_2\text{C}(\cdot)\text{C}\cdot \rightarrow \text{CH}_3\cdot + \text{CH}_3\text{C}\cdot$ | Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| $\text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{C}\cdot \rightarrow \text{CH}_3\text{CH}(\cdot) + \text{H}\cdot$ | Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| $\text{CH}_3\text{C}(\cdot)\text{CH}_3 \rightarrow \text{CH}_3\cdot + \text{CH}_3\text{C}\cdot$ | Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| $\text{CH}_3\text{C}(\cdot)\text{CH}_3 + \text{O}_2 \rightarrow \text{CH}_3\text{C}(\text{OO}\cdot)\text{CH}_3$ | Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| $\text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{C}\cdot + \text{O}_2 \rightarrow \text{CH}_3\text{CH}(\text{OO}\cdot)\text{CH}_2\text{C}\cdot$ | Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| $\text{CH}_3\text{CH}_2\text{CH}_2\text{C}\cdot [\text{or } (\text{CH}_3)_2\text{CHC}\cdot] + \text{RH} \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{C}(\text{RH})\cdot [\text{or } (\text{CH}_3)_2\text{CHC}(\text{RH})\cdot] + \text{R}\cdot$ | Fok and Nalbandyan Lefebvre, M. Lefebvre and Lucquin Locqueneux-Lefebvre, M. Poroikova, et al. | DANKAS-1952-86-589 RIFPA9-1964-19-1 JCPBAN-1965-62-784 BSCFAS-1966-1417 KICAA8-1967-8-988 | (mechanism) |
| $\text{CH}_3\text{C}(\cdot)\text{CH}_3 \rightarrow \text{CH}_3\cdot + \text{CH}_3\text{C}\cdot$ | Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| $\text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{C}\cdot \rightarrow \text{CH}_3\text{C}\cdot + \cdot\text{CH}_2\text{C}\cdot$ | Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| $\text{CH}_3\text{CH}(\text{OO}\cdot)\text{CH}_2\text{C}\cdot + \text{H}\cdot \rightarrow \text{CH}_3\text{CH}(\text{OOH})\text{CH}_2\text{C}\cdot + \text{O}_2 [\text{or } \text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{C}\cdot + \text{OH} + \text{O}_2]$ | Demerjian, et al. Niki, et al. | AESTC9-1974-4-1 ADCSAJ-1972-113-16 | (review) (review) |
| $\text{CH}_3\text{CH}(\text{OO}\cdot)\text{CH}_2\text{C}\cdot + \text{R}\cdot \rightarrow \text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{C}\cdot + \text{R}\cdot + \text{O}_2$ | Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| $\text{CH}_3\text{CH}(\text{OO}\cdot)\text{CH}_2\text{C}\cdot + \text{H}\cdot \rightarrow \text{CH}_3\text{CH}(\text{OOH})\text{CH}_2\text{C}\cdot + \text{O}_2 [\text{or } \text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{C}\cdot + \text{OH} + \text{O}_2]$ | Demerjian, et al. | AESTC9-1974-4-1 | (review) |
| $\text{CH}_3\text{CH}(\text{OO}\cdot)\text{CH}_2\text{C}\cdot + \text{R}\cdot \rightarrow \text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{C}\cdot + \text{R}\cdot + \text{O}_2$ | Niki, et al. | ADCSAJ-1972-113-16 | (review) |
| $(\text{CH}_3)_2\text{CHC}\cdot + \text{O} \rightarrow \text{products}$ | Herron and Huie Kato and Cvetanović | JPCRBU-1973-2-467 CJCHAG-1968-46-235 | (review) |
| $\text{CH}_3\text{CH}_2\text{CH}_2\text{C}\cdot + \text{O}_2 \rightarrow \text{products}$ | Cullis and Newitt | PRLAAZ-1960-257-402 | |

$(\text{CH}_3)_2\text{CHOH} + \text{O}_2 \rightarrow$ products

Burgess and Cullis
Burgess, et al.
Cullis and Newitt

JCS0A9-1961-3401
JCS0A9-1961-1884
PRLAAZ-1960-257-402

$\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ [or $(\text{CH}_3)_2\text{CHOH}$] \rightarrow products

Benson and O'Neal
Gray, et al.
Kirk and Knox
Locqueneux-Lefebvre, M.

NSRDAP-1970-21-437 (review)
PRKNAZ-1967-4-63 (review)
TFS0A4-1960-56-1296
BSCFAS-1966-1417

C₄ Compounds

- CH₂=CC=CH + θ → products [CH=CCH₂, CH=CH, ...]
 Herron and Huie JPCRBV-1973-2-467 (review)
 Niki and Weinstock JCPSA6-1966-45-3468
- CH₂=CHCH=CH₂ + θ → products [CH₂=CH \cdot , 'CH₂=CHCH θ , ...]
 Avramenko and Kolesnikova 18VHAX-1955-7
 Cvetanovič, R. J. JCPSA6-1960-33-1063
 Cvetanovič, R. J. CJCHAG-1960-38-1678 (review)
 Cvetanovič, R. J. ADPCA2-1963-1-115 (review)
 Cvetanovič and Doyle CJCHAG-1960-38-2187
 Havel, J. J. JACSAT-1974-96-530
 Havel and Chan J θ CEAH-1974-39-2439
 Herron and Huie JPCRBV-1973-2-467 (review)
- CH₂=C=CHCH₃ + θ → products
 Havel, J. J. JACSAT-1974-96-530
- CH₂=CHCH=CH₂ + θ_2 → products
 Sazonov and Ammosov RZKHAR-1974-10B906
- CH₂=CHCH=CH₂ + θ_3 → products
 Becker, et al. IJCKB θ -1974-6-725
 Hampson and Garvin NBTNAE-1975-866-32 (review)
 Hanst, et al. ACPCAT-1959-136-A7
 Japar, et al. JPCHAX-1974-78-2318
 Vrbaski and Cvetanovič CJCHAG-1960-38-1053
- CH₃CH=CHCH₂ \cdot + θ_2 → CH₃CH=CHCH₂ $\theta\theta$ \cdot
 Demerjian, et al. AESTC9-1974-4-1 (review)
- CH₂=C(CH₃)CH₂ \cdot + θ_2 → CH₂=C(CH₃)CH₂ $\theta\theta$ \cdot
 Demerjian, et al. AESTC9-1974-4-1 (review)
- CH₃CH₂CH=CH₂ + θ → products
 Atkinson and Cvetanovič JCPSA6-1971-55-659
 Atkinson and Cvetanovič JCPSA6-1972-56-432
 Cvetanovič, R. J. JCPSA6-1956-25-376
 Cvetanovič, R. J. JCPSA6-1959-30-19
 Cvetanovič, R. J. JCPSA6-1960-33-1063
 Cvetanovič, R. J. CJCHAG-1960-38-1678 (review)
 Cvetanovič, R. J. ADPCA2-1963-1-115 (review)
 DeMore, W. B. CHPLBC-1972-16-608
 Elias, L. JCPSA6-1963-38-989
 Ford and Endow JCPSA6-1957-27-1277
 Furuyama, et al. IJCKB θ -1974-6-741
 Havel, J. J. JACSAT-1974-96-530
 Herron and Huie JPCRBV-1973-2-467 (review)
 Huie and Herron PRKNAZ-1975-8-1 (review)
 Huie, et al. JPCHAX-1971-75-3092
 Huie, et al. JPCHAX-1972-76-3311
 Jarvie and Cvetanovič CJCHAG-1959-37-529 (mechanism)
 Kato and Cvetanovič CJCHAG-1967-45-1845
 Klein and Scheer JPCHAX-1968-72-616
 Preston and Cvetanovič BBPCAX-1968-72-177
 Sato and Cvetanovič CJCHAG-1958-36-970
 Sato and Cvetanovič CJCHAG-1958-36-1668 (mechanism)
 Saunders and Heicklen JPCHAX-1966-70-1950
 Smith, I. W. M. TFS θ A4-1968-64-378
- cis- or trans-CH₃CH=CHCH₃ + θ → products [HCH θ , CH₃CH θ , ...]
 Atkinson and Cvetanovič JCPSA6-1971-55-659

cis- or trans-CH₃CH=CHCH₃ + θ → products [HCH θ , CH₃CH θ , ...] (Cont'd)

| | |
|----------------------|---------------------------------|
| Avramenko, et al. | BACCAT-1967-247 |
| Cvetanović, R. J. | JCPA6-1956-25-376 |
| Cvetanović, R. J. | JCPA6-1959-30-19 |
| Cvetanović, R. J. | CJCHAG-1960-38-1678 (review) |
| Cvetanović, R. J. | ADPCA2-1963-1-115 (review) |
| Davis, et al. | JCPA6-1973-59-628 |
| Demerjian, et al. | AESTC9-1974-4-1 (review) |
| Elias, L. | JCPA6-1963-38-989 |
| Ford and Endow | JCPA6-1957-27-1277 |
| Furuyama, et al. | IJCKB θ -1974-6-741 |
| Havel, J. J. | JACSAT-1974-96-530 |
| Herron and Huie | JPCRBU-1973-2-467 (review) |
| Hughes, et al. | JPCHAX-1966-70-798 |
| Huie and Herron | PRKNAZ-1975-8-1 (review) |
| Kanofsky, et al. | SYMCAQ-1973-14-285 (mechanism) |
| Neumann and Jonathan | JCSPAC-1970-167 |
| Ray, et al. | SYMCAQ-1973-14-259 (review) |
| Sato and Cvetanović | CJCHAG-1958-36-1668 (mechanism) |
| Scheer and Klein | JPCHAX-1969-73-597 |
| Scheer and Klein | JPCHAX-1970-74-2732 (mechanism) |
| Tsuchiya, et al. | KGKZA7-1970-73-2655 (mechanism) |

(CH₃)₂C=CH₂ + θ → products [HCH θ , (CH₃)₂C θ , ...]

| | |
|-------------------------|---------------------------------|
| Atkinson and Cvetanović | JCPA6-1971-55-659 |
| Atkinson and Cvetanović | JCPA6-1972-56-432 |
| Avramenko, et al. | BACCAT-1963-30 |
| Cvetanović, R. J. | JCPA6-1956-25-376 |
| Cvetanović, R. J. | JCPA6-1959-30-19 |
| Cvetanović, R. J. | JCPA6-1960-33-1063 |
| Cvetanović, R. J. | CJCHAG-1960-38-1678 (review) |
| Cvetanović, R. J. | ADPCA2-1963-1-115 (review) |
| Demerjian, et al. | AESTC9-1974-4-1 (review) |
| Elias, L. | JCPA6-1963-38-989 |
| Ford and Endow | JCPA6-1957-27-1277 |
| Furuyama, et al. | IJCKB θ -1974-6-741 |
| Havel, J. J. | JACSAT-1974-96-530 |
| Herron and Huie | JPCRBU-1973-2-467 (review) |
| Huie and Herron | PRKNAZ-1975-8-1 (review) |
| Kanofsky, et al. | SYMCAQ-1973-14-285 (mechanism) |
| Sato and Cvetanović | CJCHAG-1958-36-970 |
| Sato and Cvetanović | CJCHAG-1958-36-1668 (mechanism) |
| Smith, I. W. M. | TFS θ A4-1968-64-378 |

CH₃CH₂CH=CH₂ + θ ₂ → products (overall)

| | |
|---------------------|---------------------|
| Baker, et al. | JCFAR-1975-71-736 |
| Norrish and Porter | PRLAAZ-1963-272-164 |
| Sazonov and Ammosov | RZKHAR-1974-10B906 |

cis- or trans-CH₃CH=CHCH₃ + θ ₂ → products (overall)

| | |
|----------------------|---|
| Bawn and Skirrow | SYMCAQ-1955-5-521 |
| Blundell and Skirrow | PRLAAZ-1958-244-331 |
| Demerjian, et al. | AESTC9-1974-4-1 (review) |
| Minkoff and Tipper | B θ θ KA7-1962-151 (review) |
| Norrish and Porter | PRLAAZ-1963-272-164 |
| Shtern, V. Ya. | B θ θ KA7-1964 (review) |

(CH₃)₂C=CH₂ + θ ₂ → products (overall)

| | |
|----------------------|---|
| Demerjian, et al. | AESTC9-1974-4-1 (review) |
| Hay, et al. | SYMCAQ-1965-10-331 |
| Knox, J. H. | B θ θ KA7-1967-250 (review) |
| Skirrow and Williams | PRLAAZ-1962-268-537 |

CH₃CH₂CH=CH₂ + θ ₃ → products

| | |
|--------------------------|-------------------------------|
| Bufoalini and Altshuller | CJCHAG-1965-43-2243 |
| Hampson and Garvin | NBTNAE-1975-866-32 (review) |
| Huie and Herron | IJCKB θ -1975-7-Sup. 1 |
| Japar, et al. | JPCHAX-1974-78-2318 |
| Vrbaski and Cvetanović | CJCHAG-1960-38-1053 |
| Wei and Cvetanović | CJCHAG-1963-41-913 |

cis- or trans-CH₃CH=CHCH₃ + Θ_3 → products

| | |
|-------------------------|-------------------------------|
| Becker, et al. | IJCKB Θ -1974-6-725 |
| Bufalini and Altshuller | CJCHAG-1965-43-2243 |
| Cox and Penkett | JCFTAR-1972-68-1735 |
| Demerjian, et al. | AESTC9-1974-4-1 (review) |
| Hampson and Garvin | NBTNAE-1975-866-32 (review) |
| Hanst, et al. | ACPCAT-1959-136-A7 |
| Huie and Herron | IJCKB Θ -1975-7-Sup. 1 |
| Japar, et al. | JPCHAX-1974-78-2318 |
| Pitts and Finlayson | XADRCH-1973-AD 763755 |
| Stedman, et al. | JPCHAX-1973-77-2511 |
| Vrbaski and Cvetanović | CJCHAG-1960-38-1053 |
| Wei and Cvetanović | CJCHAG-1963-41-913 |

(CH₃)₂C=CH₂ + Θ_3 → products

| | |
|-------------------------|-------------------------------|
| Becker, et al. | IJCKB Θ -1974-6-725 |
| Bufalini and Altshuller | CJCHAG-1965-43-2243 |
| Demerjian, et al. | AESTC9-1974-4-1 (review) |
| Hanst, et al. | ACPCAT-1959-136-A7 |
| Huie and Herron | IJCKB Θ -1975-7-Sup. 1 |
| Japar, et al. | JPCHAX-1974-78-2318 |
| Pitts and Finlayson | XADRCH-1973-AD 763755 |
| Wei and Cvetanović | CJCHAG-1963-41-913 |

CH₃CH₂CH=CH₂ + ΘH → products

| | |
|-----------------|---------------------|
| Morris and Niki | JPCHAX-1971-75-3640 |
| Pastrana V., A. | DAEBBA-1974-34-5448 |

cis- or trans-CH₃CH=CHCH₃ + ΘH → products

| | |
|-------------------|--------------------------|
| Demerjian, et al. | AESTC9-1974-4-1 (review) |
| Morris and Niki | JPCHAX-1971-75-3640 |
| Pastrana V., A. | DAEBBA-1974-34-5448 |

(CH₃)₂C=CH₂ + ΘH → products

| | |
|----------------------|---------------------------------|
| Demerjian, et al. | AESTC9-1974-4-1 (review) |
| Drysdale and Norrish | PRLAAZ-1969-308-305 (mechanism) |
| Morris and Niki | JPCHAX-1971-75-3640 |

cis- or trans-CH₃CH=CHCH₃ + H $\Theta\Theta$ → products

| | |
|-------------------|--------------------------|
| Demerjian, et al. | AESTC9-1974-4-1 (review) |
|-------------------|--------------------------|

(CH₃)₂C=CH₂ + H $\Theta\Theta$ → products

| | |
|-------------------|-------------------------------------|
| Demerjian, et al. | AESTC9-1974-4-1 (review) |
| Hay, et al. | SYMCAQ-1965-10-331 (mechanism) |
| Lloyd, A. C. | IJCKB Θ -1974-6-169 (review) |

CH₃CH₂CH₂CH₂ · [or CH₃CH₂CH(·)CH₃] + Θ_2 → products

| | |
|------------------------|-------------------------------------|
| Baker, et al. | JCFTAR-1975-71-736 |
| Baker, et al. | JCFTAR-1975-71-756 |
| Baker, et al. | SYMCAQ-1971-13-291 |
| Baldwin and Walker | CBFMA Θ -1973-21-55 (review) |
| Baldwin and Walker | SYMCAQ-1973-14-241 (review) |
| Demerjian, et al. | AESTC9-1974-4-1 |
| Euker, C. A., Jr. | DABBA-1970-30-4115 |
| Euker and Leinroth | CBFMA Θ -1970-15-275 |
| Geisbrecht and Daubert | IEPDAW-1975-14-159 |

(CH₃)₂CHCH₂ · [or (CH₃)₃C ·] + Θ_2 → products

| | |
|--------------------|--|
| Allara, et al. | IJCKB Θ -1972-4-345 (calculation) |
| Allara, et al. | ADCSAJ-1968-76-40 (mechanism) |
| Baker, et al. | SYMCAQ-1971-13-291 |
| Baldwin and Walker | SYMCAQ-1973-14-241 (review) |
| Hay, et al. | SYMCAQ-1965-10-331 (mechanism) |
| Slater and Calvert | ADCSAJ-1968-76-58 |

$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2 \cdot$ [or $\text{CH}_3\text{CH}_2\text{CH}(\cdot)\text{CH}_3$] + $\text{OH} \rightarrow$ products
Greiner, N. R. JCPA6-1970-53-1070

$(\text{CH}_3)_3\text{C} \cdot$ + $\text{OH} \rightarrow (\text{CH}_3)_3\text{COH}$
Greiner, N. R. JCPA6-1970-53-1070

$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3 + \text{O} \rightarrow$ products (HCHO , CH_3CHO , ...)
Atkinson and Cvetanović JCPA6-1971-55-659
Avramenko, et al. BACCAT-1963-890
Azatyan, et al. DANA6-1963-36-23
Baldwin, et al. SYMCAO-1965-10-423
Cvetanović, R. J. JCPA6-1955-23-1375
Cvetanović, R. J. JCPA6-1956-25-376
Cvetanović, R. J. ADPCA2-1963-1-115 (review)
Demerjian, et al. AESTC9-1974-4-1 (review)
Elias and Schiff CJCHAG-1960-38-1657
Ford and Endow JCPA6-1957-27-1277
Herron and Huie JPCHAX-1969-73-3327
Herron and Huie JPCRBU-1973-2-467 (review)
Huie and Herron PRKNAZ-1975-8-1 (review)
Marsh and Heicklen JPCHAX-1967-71-250
Mayer and Schieler JPCHAX-1968-72-2628 (calculation)
Michaud, et al. JPCHAX-1974-78-1457
Papadopoulos, et al. SYMCAO-1971-13-281
Schofield, K. PLSSAE-1967-15-643 (review)
Wilson, Wm. E., Jr. JPCRBU-1972-1-535 (review)
Wright, F. J. SYMCAO-1965-10-387

$(\text{CH}_3)_3\text{CH} + \text{O} \rightarrow$ products [$(\text{CH}_3)_2\text{CO}$, $(\text{CH}_3)_2\text{CHCHO}$]
Baker, et al. JGFTAR-1975-71-736
Baldwin, et al. SYMCAO-1965-10-423
Herron and Huie JPCRBU-1973-2-467 (review)
Paraskevopoulos and Cvetanović JACSAT-1969-91-7572
Schofield, K. PLSSAE-1967-15-643 (review)
Wilson, Wm. E., Jr. JPCRBU-1972-1-535 (review)
Wright, F. J. JCPA6-1963-38-950 (mechanism)
Wright, F. J. SYMCAO-1965-10-387

$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3 + \text{O}_2 \rightarrow$ products (overall)
Agasiev and Shakhtakhtinskii AZKZAU-1969-14
Allara and Edelson RC TEA4-1972-45-437 (calculation)
Allara, et al. ACPCAT-1971-16-B31
Antonik and Lucquin BSCFAS-1968-4043
Atherton, et al. SYMCAO-1973-14-513
Baker, et al. JGFTAR-1975-71-736
Baker, et al. JGFTAR-1975-71-756
Bardwell, J. SYMCAO-1955-5-529
Berry, et al. PRLAAZ-1970-316-377
Berry, et al. ADCSAJ-1968-76-86
Blakermore, J. E. DABBA-1971-31-4653
Blat, et al. ACPYAR-1939-10-273
Bufalini, et al. ESTHAG-1971-5-333
Cherneskey and Bardwell CJCHAG-1960-38-482
Crossley, et al. CBFMA6-1972-19-373
Cullis and Mulcahy RIFPA9-1949-4-283
Déchaux and Lucquin SYMCAO-1971-13-205
Drysdale, D. D. CBFMA6-1971-17-261
Euker, C. A. Jr. DABBA-1970-30-4115
Euker and Leinroth CBFMA6-1970-15-275
Falconer and Van Tiggelen SYMCAO-1963-9-689
Falconer, et al. JCSA9-1961-4285
Kozorezov, et al. JAPUAW-1965-38-1171
Kuhn and Wellman WSCPAH-1972-No. 72-41
Lewis and Von Elbe BOKA7-1961-90 (review)
Malherbe and Walsh TFS6A4-1950-46-824
Malherbe and Walsh TFS6A4-1950-46-835
Mill, et al. JACSAT-1972-94-6802
Mulcahy, M. F. R. DFS6AW-1947-2-128
Mulcahy, M. F. R. TFS6A4-1949-45-575
Norikov and Blyumberg BACCAT-1962-1275
Norikov, et al. BACCAT-1964-774

$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3 + \text{O}_2 \rightarrow \text{products (overall)} \text{ (Cont'd)}$

| | |
|-----------------------|----------------------------|
| Norikov, et al. | 21 RAAM-1965-410 |
| Rader and Weller | AICEAC-1974-20-515 |
| Semenov, N. | BØØKA7-1935-328 (review) |
| Semenov, N. N. | BØØKA7-1959-2-217 (review) |
| Shtern, V. Ya. | BØØKA7-1964 (review) |
| Shu and Bardwell | CJCHAG-1955-33-1415 |
| Slavinskaya, et al. | RJPCAR-1963-37-830 |
| Skrivan and Hoelscher | AICEAC-1959-5-348 |
| Sochet, et al. | JCPBAN-1966-63-1555 |
| Yoshizawa and Kawada | BJSEA8-1973-16-576 |

$(\text{CH}_3)_3\text{CH} + \text{O}_2 \rightarrow \text{products (overall)}$

| | |
|---------------------------|--------------------------|
| Allara, et al. | ADCSAJ-1968-76-40 |
| Atherton, et al. | SYMCAQ-1973-14-513 |
| Brown, et al. | BØØKA7-1975-751 |
| Falconer and Van Tiggelen | SYMCAQ-1963-9-689 |
| Falconer, et al. | JCSØA9-1961-782 |
| Hay, et al. | SYMCAQ-1965-10-331 |
| Irvine and Knox | BØØKA7-1975-733 |
| Knox and Turner | JCSØA9-1965-3491 |
| Kozorezov, et al. | JAPUAW-1965-38-1171 |
| Lockett and Pollard | CBFMAØ-1973-21-265 |
| Minkoff and Tipper | BØØKA7-1962-151 (review) |
| Mulcahy, M. F. R. | TFSØA4-1949-45-575 |
| Rezai, A. A. | DIASA9-1965-26-939 |
| Ridge, M. J. | TFSØA4-1956-52-858 |
| Seakins and Hinshelwood | PRLAAZ-1963-276-324 |
| Shtern, V. Ya. | BØØKA7-1964 (review) |
| Zeelenberg and Bickel | JCSØA9-1961-4014 |

$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3 + \text{O}_3 \rightarrow \text{products}$

| | |
|--------------------|---------------------|
| Schubert and Pease | JACSAT-1956-78-2044 |
| Schubert and Pease | JCPSA6-1956-24-919 |

$(\text{CH}_3)_3\text{CH} + \text{O}_3 \rightarrow \text{products}$

| | |
|--------------------|---------------------|
| James, H. | RIFPA9-1958-13-338 |
| Knox, J. H. | SYMCAQ-1959-7-122 |
| Schubert and Pease | JACSAT-1956-78-2044 |
| Schubert and Pease | JACSAT-1956-78-5553 |
| Schubert and Pease | JCPSA6-1956-24-919 |

$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3 + \text{OH} \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2 \cdot \text{ [or } \text{CH}_3\text{CH}_2\text{CH}(\cdot)\text{CH}_3 \text{]} + \text{H}_2\text{O}$

| | |
|----------------------|-----------------------------|
| Baker, et al. | JCFTAR-1975-71-736 |
| Baker, et al. | SYMCAQ-1971-13-291 |
| Baldwin, et al. | SYMCAQ-1965-10-423 |
| Demerjian, et al. | AESTC9-1974-4-1 (review) |
| Greiner, N. R. | JCPSA6-1970-53-1070 |
| Greiner, N. R. | JCPSA6-1970-53-1285 |
| Hampson and Garvin | NBTNAE-1975-866-60 (review) |
| Morris and Niki | JPCHAX-1971-75-3640 |
| Papadopoulos, et al. | SYMCAQ-1971-13-281 |
| Stuhl, F. | ZENAAU-1973-28-1383 |
| Wilson, Wm. E., Jr. | JPCRBU-1972-1-535 |

$(\text{CH}_3)_3\text{CH} + \text{OH} \rightarrow (\text{CH}_3)_3\text{C} \cdot + \text{H}_2\text{O}$

| | |
|---------------------|----------------------------|
| Baker, et al. | SYMCAQ-1971-13-291 |
| Baldwin, et al. | SYMCAQ-1965-10-423 |
| Drysdale and Lloyd | ØXCRA4-1970-4-157 (review) |
| Greiner, N. R. | JCPSA6-1967-46-3389 |
| Greiner, N. R. | JCPSA6-1970-53-1070 |
| Greiner, N. R. | JCPSA6-1970-53-1285 |
| Wilson, Wm. E., Jr. | JPCRBU-1972-1-535 (review) |

$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3 + \text{HOØ} \cdot \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2 \cdot \text{ [or } \text{CH}_3\text{CH}_2\text{CH}(\cdot)\text{CH}_3 \text{]} + \text{H}_2\text{O}_2$

| | |
|--------------------|-----------------------------|
| Hampson and Garvin | NBTNAE-1975-866-63 (review) |
| Lloyd, A. C. | IJCKBØ-1974-6-169 (review) |

$(\text{CH}_3)_3\text{CH} + \text{HOØ} \cdot \rightarrow (\text{CH}_3)_3\text{C} \cdot + \text{H}_2\text{O}_2$

| | |
|-----------------|--------------------|
| Baldwin, et al. | SYMCAQ-1971-13-251 |
|-----------------|--------------------|

- $(\text{CH}_3)_3\text{CH} + \text{H}\theta\theta \rightarrow (\text{CH}_3)_3\text{C}\cdot + \text{H}_2\theta_2$ (Cont'd)
 Hampson and Garvin NBTNAE-1975-866-63 (review)
 Lloyd, A. C. IJCKB0-1974-6-169 (review)
- cis- or trans- $\text{CH}_3\text{CH}=\text{CHCH}\theta + \theta_2 \rightarrow$ products
 Cadle, et al. CMSHAF-1974-3-115
 Minkoff and Tipper B00KA7-1962-136
- cis- or trans- $\text{CH}_3\text{CH}=\text{CHCH}\theta + \theta_3 \rightarrow$ products
 Hanst, et al. ACPCAT-1959-136-A7
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{C}(\theta)\cdot + \theta_2 \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{C}(\theta)\theta\theta\cdot$
 Demerjian, et al. AESTC9-1974-4-1
- $\text{CH}_3\text{C}(\theta)\text{CH}(\cdot)\text{CH}_3 + \theta_2 \rightarrow \text{CH}_3\text{C}(\theta)\text{CH}(\theta\theta\cdot)\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}=\text{CHCH}_2\theta\theta\cdot \rightarrow$ products
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_2=\text{C}(\text{CH}_3)\text{CH}_2\theta\theta\cdot \rightarrow$ products
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{C}\theta\theta\cdot \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\cdot + \text{C}\theta_2$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{C}(\theta)\text{CH}(\theta\cdot)\text{CH}_3 + \theta_2 \rightarrow \text{CH}_3\text{C}(\theta)\text{C}(\theta)\text{CH}_3 + \text{H}\theta\theta\cdot$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}(\cdot)\text{CH}(\theta\cdot)\text{CH}_3 \rightarrow$ products
 Demerjian, et al. AESTC9-1974-4-1
- $(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\theta\cdot \rightarrow$ products
 Demerjian, et al. AESTC9-1974-4-1
- $\text{CH}_3\text{CH}_2\text{C}(\theta)\text{CH}_3 + \theta_2 \rightarrow$ products (overall)
 Bardwell, J. PRLAAZ-1951-207-470
 Bardwell and Hinshelwood PRLAAZ-1950-201-26
 Bardwell and Hinshelwood PRLAAZ-1951-205-375
 Bardwell and Hinshelwood PRLAAZ-1951-207-461
 Barnard, J. A. ADCSAJ-1968-76-98
 Barnard and Sheikh PSIRAA-1973-16-93
 Minkoff and Tipper B00KA7-1962-184 (review)
 Seakins and Hinshelwood PRLAAZ-1963-276-324
 Shtern, V. Ya. B00KA7-1964 (review)
- $\text{CH}_3\text{CH}(\theta\cdot)\text{CH}(\cdot)\text{CH}_3 + \theta_2 \rightarrow \text{CH}_3\text{CH}(\theta\cdot)\text{CH}(\theta\theta\cdot)\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1
- $(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\theta\cdot + \theta_2 \rightarrow (\text{CH}_3)_2\text{C}(\theta\cdot)\text{CH}_2\theta\theta\cdot$ [or $(\text{CH}_3)_2\text{C}(\theta\theta\cdot)\text{CH}_2\theta\cdot$]
 Demerjian, et al. AESTC9-1974-4-1
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}\theta + \theta\text{H} \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{C}(\theta)\cdot + \text{H}_2\theta$
 Demerjian, et al. AESTC9-1974-4-1
- $\text{CH}_3\text{CH}_2\text{C}(\theta)\text{CH}_3 + \theta\text{H} \rightarrow \text{CH}_3\text{C}\theta\text{CH}(\cdot)\text{CH}_3 + \text{H}_2\theta$
 Demerjian, et al. AESTC9-1974-4-1 (review)

- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3 + \text{H}\cdot \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{C}(\cdot)\text{H} + \text{H}_2$
 Baldwin, et al. SYMCAQ-1971-13-251
- $\text{CH}_3\text{C}(\cdot)\text{CH}_2\text{CH}_3 + \text{O}_2 \rightarrow \text{products}$
 Fish and Waris JCSA9-1962-4513
- $\text{CH}_3\text{CH}(\cdot)\text{CH}(\cdot)\text{CH}_3 \rightarrow \text{CH}_3\text{CHO} + \text{CH}_3\text{C}(\cdot)\text{H}(\cdot)$
 Demerjian, et al. AESTC9-1974-4-1
- $(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2(\cdot) \rightarrow (\text{CH}_3)_2\text{CO} + \cdot\text{CH}_2\cdot$
 Demerjian, et al. AESTC9-1974-4-1
- $(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\cdot \rightarrow (\text{CH}_3)_2\text{C}(\cdot)(\cdot) + \text{HCHO}$
 Demerjian, et al. AESTC9-1974-4-1
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\cdot \rightarrow \text{CH}_3\text{CH}_2\cdot + \text{CH}_2=\text{CH}_2$
 Salooja, R. C. CBFMA6-1965-9-33 (mechanism)
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\cdot$ [or $\text{CH}_3\text{CH}_2\text{CH}(\cdot)\text{CH}_3$] $\rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\cdot + \text{HCHO}$ [or $\text{CH}_3\text{CH}_2\cdot + \text{CH}_3\text{CHO}$]
 Benson and Neal NSRDAP-1970-21-596 (review)
 Demerjian, et al. AESTC9-1974-4-1 (review)
 Mill, et al. JACSAT-1972-94-6802
- $\text{CH}_3\text{CH}_2\text{CH}(\cdot)\text{CH}_3 \rightarrow \text{CH}_3\text{CH}_2\cdot + \text{CH}_3\text{CHO}$
 Benson and Neal NSRDAP-1970-21-600 (review)
 Salooja, K. C. CBFMA6-1965-9-33 (mechanism)
- $(\text{CH}_3)_3\text{C}\cdot (+\text{M}) \rightarrow (\text{CH}_3)_2\text{CO} + \text{CH}_3\cdot (+\text{M})$
 Allara, et al. IJCKB6-1972-4-345 (calculation)
 Benson and Neal NSRDAP-1970-21-597 (review)
 Gray, et al. PRKNAZ-1967-4-63 (review)
 Heicklen, J. ADCSAJ-1968-76-23 (review)
 Hoare and Wellington SYMCAQ-1962-8-472
 Parkes, D. A. SYMCAQ-1975-15-795
 Thomas and Calvert JACSAT-1962-84-4207
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\cdot$ [or $\text{CH}_3\text{CH}_2\text{CH}(\cdot)\text{CH}_3$] $+ \text{O}_2 \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{CHO}$ [or $\text{CH}_3\text{CH}_2\text{C}(\cdot)\text{CH}_3$] $+ \text{HOO}\cdot$
 Demerjian, et al. AESTC9-1974-4-1
- $(\text{CH}_3)_3\text{C}\cdot + \text{O}_2 \rightarrow (\text{CH}_3)_2\text{CO} + \text{CH}_3\text{OO}\cdot$
 Hoare and Wellington SYMCAQ-1962-8-472
- $\text{CH}_3\text{CH}(\cdot)\text{CH}(\cdot)\text{CH}_3 + \text{O}_2 \rightarrow \text{CH}_3\text{CH}(\cdot)\text{CH}(\cdot)\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1
- $\text{CH}_3\text{CH}_2\text{CH}(\cdot)\text{CH}_3 + \text{O}_2 \rightarrow \text{CH}_3\text{CH}_2\text{CH}(\cdot)\text{CH}_3$
 Salooja, K. C. CBFMA6-1965-9-33 (mechanism)
- $\text{CH}_3\text{CH}_2\text{CH}(\cdot)\text{CH}_3 + \text{O}_2 \rightarrow \text{CH}_3\text{CH}_2\text{CH}(\cdot)\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\text{OH} + \text{O}_2 \rightarrow (\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\text{OH}$
 Demerjian, et al. AESTC9-1974-4-1 (review)

- $(\text{CH}_3)_2\text{C}(\text{OH})\text{CH}_2 \cdot + \text{O}_2 \rightarrow (\text{CH}_3)_2\text{C}(\text{OH})\text{CH}_2\text{OO} \cdot$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $(\text{CH}_3)_3\text{C}\dot{\text{O}} + (\text{CH}_3)_3\text{C}\dot{\text{O}} \rightarrow (\text{CH}_3)_3\text{C}\text{OO}\text{C}(\text{CH}_3)_3$
 Gray, et al. PRKNAZ-1967-4-63 (review)
- $(\text{CH}_3)_3\text{C}\dot{\text{O}} + \text{R} \cdot \rightarrow (\text{CH}_3)_3\text{C}\text{OR}$
 Gray, et al. PRKNAZ-1967-4-63 (review)
 Heicklen, J. ADCSAJ-1968-76-23 (review)
- $\text{CH}_3\text{CH}_2\text{CH}(\dot{\text{O}})\text{CH}_3 + \text{RH} \rightarrow \text{CH}_3\text{CH}_2\text{CH}(\text{OH})\text{CH}_3 + \text{R} \cdot$
 Mill, et al. JACSAT-1972-94-6802
- $(\text{CH}_3)_3\text{C}\dot{\text{O}} + \text{RH} \rightarrow (\text{CH}_3)_3\text{C}\text{OH} + \text{R} \cdot$
 Allara, et al. IJCKB8-1972-4-345 (calculation)
 Allara, et al. ADCSAJ-1968-76-40
 Gray, et al. PRKNAZ-1967-4-63 (review)
 Heicklen, J. ADCSAJ-1968-76-23 (review)
 Hoare and Wellington SYMCAQ-1962-8-472
 Parkes, D. A. SYMCAQ-1975-15-795
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OO} \cdot$ [or $\text{CH}_3\text{CH}_2\text{CH}(\text{OO} \cdot)\text{CH}_3$] \rightarrow products
 Allara, et al. ACPCAT-1971-27-B31
 Baker, et al. JCFTAR-1975-71-756
 Baldwin and Walker CBFMA8-1973-21-55 (review)
 Euker, C. A., Jr. DABBBA-1970-30-4115
 Euker and Leinroth CBFMA8-1970-15-275
 Geisbrecht and Daubert IEPDAW-1975-14-159
 Mill, et al. JACSAT-1972-94-6802
 Norikov and Blyumberg BACCAT-1962-1275
 Norikov, et al. BACCAT-1964-774
 Norikov, et al. 21 RAAM-1965-410
- $\text{CH}_3\text{CH}(\text{OH})\text{CH}(\dot{\text{O}})\text{CH}_3 \rightarrow \text{CH}_3\text{CH}(\text{OH}) \cdot + \text{CH}_3\text{CHO}$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{OCH}_2\text{CH}(\dot{\text{O}})\text{CH}_3 \rightarrow \text{CH}_3\text{OCH}_2 \cdot + \text{CH}_3\text{CHO}$ [or $\text{CH}_3\text{OCH}_2\text{CHO} + \text{CH}_3 \cdot$]
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $(\text{CH}_3)_2\text{C}(\dot{\text{O}})\text{CH}_2\text{OH} \rightarrow (\text{CH}_3)_2\text{CO} + \cdot\text{CH}_2\text{OH}$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $(\text{CH}_3)_2\text{C}(\text{OH})\text{CH}_2\dot{\text{O}} \rightarrow (\text{CH}_3)_2\text{C}(\text{OH}) \cdot + \text{HCHO}$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{CH}_2\text{OOH} \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OO} \cdot$
 Geisbrecht and Daubert IEPDAW-1975-14-159
- $\text{CH}_3\text{OCH}_2\text{CH}(\dot{\text{O}})\text{CH}_3 + \text{O}_2 \rightarrow \text{CH}_3\text{OCH}_2\text{C}(\text{O})\text{CH}_3 + \text{HO}\dot{\text{O}} \cdot$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{OOCH}_2\text{CH}(\cdot)\text{CH}_3 + \text{O}_2 \rightarrow \text{CH}_3\text{OOCH}_2\text{CH}(\text{OO} \cdot)\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}(\text{OOH})\text{CH}(\cdot)\text{CH}_3 + \text{O}_2 \rightarrow \text{CH}_3\text{CH}(\text{OOH})\text{CH}(\text{OO} \cdot)\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1 (review)

- $(\text{CH}_3)_2\dot{\text{C}}\text{CH}_2\text{CH}_3 + \text{O}_2 \rightarrow (\text{CH}_3)_2\dot{\text{C}}(\text{OH})\text{CH}_2\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $(\text{CH}_3)_3\text{C}\dot{\text{C}}\text{H} + \text{H}\dot{\text{O}}\text{H} \rightarrow (\text{CH}_3)_3\text{C}\text{OH} + \text{O}_2$
 Bell and McDowell CJCHAG-1961-39-1424
- $\text{CH}_3\text{CH}_2\text{CH}(\dot{\text{C}}\text{H})\text{CH}_3 + \text{RH} \rightarrow \text{CH}_3\text{CH}_2\text{CH}(\text{OH})\text{CH}_3 + \text{R}\cdot$
 Euker, C. A., Jr. DAEBBA-1970-30-4115
 Euker and Leinroth CBFMA6-1970-15-275
 Mill, et al. JACSAT-1972-94-6802
 Norikov and Blyumberg BACCAT-1962-1275
 Norikov, et al. BACCAT-1964-774
 Norikov, et al. 21 RAAM-1965-410
- $(\text{CH}_3)_2\text{CHCH}_2\dot{\text{C}}\text{H} \text{ [or } (\text{CH}_3)_3\text{C}\dot{\text{C}}\text{H}] + \text{RH} \rightarrow (\text{CH}_3)_2\text{CHCH}_2\text{OH} \text{ [or } (\text{CH}_3)_3\text{COH}] + \text{R}\cdot$
 Allara, et al. IJCK66-1972-4-345 (calculation)
 Allara, et al. ADCSAJ-1968-76-40
 Burgess and Robb TFS6A4-1958-54-1015
- $(\text{CH}_3)_2\text{CHCH}_2\dot{\text{C}}\text{H} \text{ [or } (\text{CH}_3)_3\text{C}\dot{\text{C}}\text{H}] + \text{R}\dot{\text{O}}\text{H} \rightarrow \text{products}$
 Allara, et al. IJCK66-1972-4-345 (calculation)
 Allara, et al. ADCSAJ-1968-76-40
 Benson, S. W. JCPSA6-1964-40-1007
 Parkes, D. A. SYMCAQ-1975-15-795
- $\text{CH}_3\text{CH}(\dot{\text{C}}\text{H})\text{CH}_2\text{CH}_3 \rightarrow \text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{CH}_3$
 Salooja, K. C. CBFMA6-1965-9-33 (mechanism)
- $\text{CH}_3\dot{\text{C}}\text{HCH}_2\text{CH}(\dot{\text{C}}\text{H})\text{CH}_3 \rightarrow \text{CH}_3\dot{\text{C}}\text{HCH}_2\text{CH}_3 + \text{CH}_3\cdot \text{ [or } \text{CH}_3\dot{\text{C}}\text{HCH}_2\cdot + \text{CH}_3\dot{\text{C}}\text{H}]$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}(\dot{\text{C}}\text{H})\text{CH}(\text{OH})\text{CH}_3 \rightarrow \text{CH}_3\text{CH}_3 + \text{CH}_3\text{CH}(\cdot)\text{OH}$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $(\text{CH}_3)_2\dot{\text{C}}(\dot{\text{C}}\text{H})\text{CH}_2\text{CH}_3 \rightarrow (\text{CH}_3)_2\dot{\text{C}}\text{H} + \cdot\text{CH}_2\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\dot{\text{C}}\text{HCH}_2\text{CH}(\dot{\text{C}}\text{H})\text{CH}_3 + \text{O}_2 \rightarrow \text{CH}_3\dot{\text{C}}\text{HCH}_2\dot{\text{C}}(\text{H})\text{CH}_3 + \text{H}\dot{\text{O}}\text{H}$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\dot{\text{C}}\text{HCH}_2\text{CH}(\dot{\text{C}}\text{H})\text{CH}_3 + \text{H}\dot{\text{O}}\text{H} \rightarrow \text{CH}_3\dot{\text{C}}\text{HCH}_2\text{CH}(\text{OH})\text{CH}_3 \text{ [or } \text{CH}_3\dot{\text{C}}\text{HCH}_2\text{CH}(\dot{\text{C}}\text{H})\text{CH}_3 + \text{OH}] + \text{O}_2$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\dot{\text{C}}\text{HCH}_2\text{CH}(\dot{\text{C}}\text{H})\text{CH}_3 + \text{R}\dot{\text{O}}\text{H} \rightarrow \text{CH}_3\dot{\text{C}}\text{HCH}_2\text{CH}(\dot{\text{C}}\text{H})\text{CH}_3 + \text{R}\cdot + \text{O}_2$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}_2\dot{\text{C}}\text{HCH}_2\text{CH}_3 \rightarrow \text{CH}_2=\text{CH}_2 + \text{CH}_3\text{CH}_2\dot{\text{C}}\text{H} \text{ [or } \text{CH}_3\text{CH}_2\cdot + \text{CH}_3\text{CH}_2\dot{\text{C}}\text{H}]$
 Benson and Neal NSRDAP-1970-21-415 (review)
 Minkoff and Tipper B66KA7-1962-184 (review)
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\dot{\text{C}}\text{H} + \text{O}_2 \rightarrow \text{products (overall)}$
 Cullis and Warwicker PRLAAZ-1961-264-392
- $\text{CH}_3\text{CH}_2\text{CH}(\text{OH})\text{CH}_3 + \text{O}_2 \rightarrow \text{products (overall)}$
 Cullis and Warwicker PRLAAZ-1961-264-392

$(\text{CH}_3)_2\text{CHCH}_2\text{OH} + \text{O}_2 \rightarrow \text{products (overall)}$
 Cullis and Warwicker PRLAAZ-1961-264-392

$(\text{CH}_3)_3\text{COH} + \text{O}_2 \rightarrow \text{products (overall)}$
 Cullis and Warwicker PRLAAZ-1961-264-392

$\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3 + \text{O}_2 \rightarrow \text{CH}_3\text{CH}_2\text{OCH}(\cdot)\text{CH}_3 + \text{HO}_2\cdot$
 Salooja, K. C. CBFMAO-1965-9-33 (mechanism)
 Shtern, V. Ya. BSOKA7-1964 (review)

$\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3 + \text{OH} \rightarrow \text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_2\cdot + \text{H}_2\text{O}$
 Salooja, K. C. CBFMAO-1965-9-33 (mechanism)

$\text{CH}_3\text{CH}_2\text{OOCH}_2\text{CH}_3 \rightarrow \text{CH}_3\text{CH}_2\text{O}\cdot + \text{CH}_3\text{CH}_2\text{O}\cdot$
 Benson and O'Neal NSRDAP-1970-21-428 (review)
 Blat, et al. ACPYAR-1939-10-273
 Gray, et al. PRKNAZ-1967-4-63 (review)

$(\text{CH}_3)_3\text{COOH} \rightarrow (\text{CH}_3)_3\text{CO}\cdot + \text{OH}$
 Bell, et al. DFSOAW-1951-10-242
 Benson, S. W. JCPSA6-1964-40-1007
 Benson and O'Neal NSRDAP-1970-21-438 (review)
 Gray, et al. PRKNAZ-1967-4-63 (review)
 Kirk and Knox TFSOA4-1960-56-1296

$(\text{CH}_3)_3\text{COOH} + \text{OH} \rightarrow (\text{CH}_3)_3\text{CO}\cdot + \text{H}_2\text{O}$
 Benson, S. W. JCPSA6-1964-40-1007

C₅ Compounds

- CH₂=C=C(CH₃)₂ + θ → products
Havel, J. J. JACSAT-1974-96-530
- CH₃CH₂CH₂CH=CH₂ + θ → products
Herron and Huie JPCRB-1973-2-467 (review)
- cis- or trans-CH₃CH₂CH=CHCH₃ + θ → products
Cvetanović, R. J. JCPSA6-1959-30-19
Cvetanović, R. J. CJCHAG-1960-38-1678 (review)
Cvetanović, R. J. ADPCA2-1963-1-115 (review)
Ford and Endow JCPSA6-1957-27-1277
Herron and Huie JPCRB-1973-2-467 (review)
Scheer and Klein JPCHAX-1970-74-2732 (mechanism)
- (CH₃)₂C=CHCH₃ + θ → products
Cvetanović, R. J. JCPSA6-1960-33-1063
Cvetanović, R. J. CJCHAG-1960-38-1678 (review)
Cvetanović, R. J. ADPCA2-1963-1-115 (review)
Furuyama, et al. IJCKB6-1974-6-741
Havel, J. J. JACSAT-1974-96-530
Herron and Huie JPCRB-1973-2-467 (review)
- CH₃CH₂CH₂CH=CH₂ + θ_2 → products (overall)
Chernyak and Duda RJPCAR-1973-47-751
Hughes and Proshan CBFMA6-1973-21-297
- cis- or trans-CH₃CH₂CH=CHCH₃ + θ_2 → products (overall)
Hughes and Proshan CBFMA6-1973-21-297
- (CH₃)₂C=CHCH₃ + θ_2 → products (overall)
Cullis, et al. PRLAAZ-1961-262-318
Huie and Herron PRKNAZ-1975-8-1 (review)
- CH₃CH₂CH₂CH=CH₂ + θ_3 → products
Cadle and Schadt JACSAT-1952-74-6002
Hanst, et al. ACPCAT-1959-136-A7
Japar, et al. JPCHAX-1974-78-2318
Vrbaski and Cvetanović CJCHAG-1960-38-1053
Wei and Cvetanović CJCHAG-1963-41-913
- cis- or trans-CH₃CH₂CH=CHCH₃ + θ_3 → products
Cox and Penkett JCFTAR-1972-68-1735
Hanst, et al. ACPCAT-1959-136-A7
Vrbaski and Cvetanović CJCHAG-1960-38-1053
Wei and Cvetanović CJCHAG-1963-41-913
- (CH₃)₂C=CHCH₃ + θ_3 → products
Bufalini and Altshuller CJCHAG-1965-43-2243
Cox and Penkett JCFTAR-1972-68-1735
Huie and Herron IJCKB6-1975-7-Sup. 1
Japar, et al. JPCHAX-1974-78-2318
Vrbaski and Cvetanović CJCHAG-1960-38-1053
Wei and Cvetanović CJCHAG-1963-41-913
- CH₃CH₂C(CH₃)=CH₂ + θ_3 → products
Vrbaski and Cvetanović CJCHAG-1960-38-1053
Wei and Cvetanović CJCHAG-1963-41-913

- $(\text{CH}_3)_2\text{CHCH}=\text{CH}_2 + \theta_3 \rightarrow \text{products}$
 Vrbaski and Cvetanović CJCHAG-1960-38-1053
 Wei and Cvetanović CJCHAG-1963-41-913
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}=\text{CH}_2 + \theta\text{H} \rightarrow \text{products}$
 Morris and Niki JPCHAX-1971-75-3640
- cis- or trans- $\text{CH}_3\text{CH}_2\text{CH}=\text{CHCH}_3 + \theta\text{H} \rightarrow \text{products}$
 Morris and Niki JPCHAX-1971-75-3640
- $\text{CH}_3\text{CH}_2\text{C}(\text{CH}_3)=\text{CH}_2 + \theta\text{H} \rightarrow \text{products}$
 Morris and Niki JPCHAX-1971-75-3640
- $(\text{CH}_3)_2\text{C}=\text{CHCH}_3 + \theta\text{H} \rightarrow \text{products}$
 Morris and Niki JPCHAX-1971-75-3640
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}(\cdot)\text{CH}_3 + \theta_2 \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}(\theta\theta\cdot)\text{CH}_3$
 Dahm and Verhoek CBFMA θ -1968-12-380 (mechanism)
 Hughes and Simmons SYMCAO-1969-12-449 (mechanism)
- $(\text{CH}_3)_2\text{CHCH}_2\text{CH}_2\cdot$ [or $(\text{CH}_3)_2\text{CHCH}(\cdot)\text{CH}_3$, or $(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\text{CH}_3$] + $\theta_2 \rightarrow \text{products}$
 Allara, et al. IJCKB θ -1972-4-345 (calculation)
 Varkey and Sandler CBFMA θ -1969-13-223 (mechanism)
- $(\text{CH}_3)_3\text{CCH}_2\cdot + \theta_2 \rightarrow \text{products}$
 Antonik and Lucquin BSCFAS-1968-2796
 Antonik and Lucquin BSCFAS-1971-3139
 Baker, et al. CBFMA θ -1970-14-31
 Baldwin, et al. ADCSAJ-1968-76-124
 Drysdale and Norrish PRLAAZ-1969-308-305 (mechanism)
 Zeelenberg, A. P. RTCPA3-1962-81-720
- $(\text{CH}_3)_3\text{CCH}_2\cdot + \theta\text{H} \rightarrow (\text{CH}_3)_3\text{CCH}_2\theta\text{H}$
 Greiner, N. R. JCPSA6-1970-53-1070
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3 + \theta \rightarrow \text{products}$
 Herron and Huie JPCHAX-1969-73-3327
 Herron and Huie JPCRBU-1973-2-467 (review)
 Huie and Herron PRKNAZ-1975-8-1 (review)
 Michaud, et al. JPCHAX-1974-78-1457
- $(\text{CH}_3)_2\text{CHCH}_2\text{CH}_3 + \theta \rightarrow \text{products}$
 Allara, et al. IJCKB θ -1972-4-345 (calculation)
 Herron and Huie JPCHAX-1969-73-3327
 Herron and Huie JPCRBU-1973-2-467 (review)
- $(\text{CH}_3)_4\text{C} + \theta \rightarrow \text{products}$
 Herron and Huie JPCHAX-1969-73-3327
 Herron and Huie JPCRBU-1973-2-467 (review)
 Huie and Herron PRKNAZ-1975-8-1 (review)
 Michaud, et al. JPCHAX-1974-78-1457
 Paraskevopoulos and Cvetanović JACSAT-1969-91-7572
 Paraskevopoulos and Cvetanović CHPLBC-1971-9-603
 Wright, F. J. SYMCAO-1965-10-387
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3 + \theta_2 \rightarrow \text{products (overall)}$
 Aivazov and Neiman ZFKHA9-1936-8-88
 Aivazov and Neiman ZFKHA9-1936-8-543
 Aivazov and Neiman ACPYAR-1937-6-279

$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3 + \text{O}_2 \rightarrow \text{products (overall) (Cont'd)}$

| | |
|------------------------|--------------------------|
| Aivazov and Neiman | ZFKHA9-1937-9-231 |
| Bastow and Cullis | PRLAAZ-1974-338-327 |
| Bastow and Cullis | BØØKA7-1975-765 |
| Berry, et al. | ADCSAJ-1968-76-86 |
| Chung and Sandler | CBFMAØ-1963-7-339 |
| Crossley, et al. | CBFMAØ-1972-19-373 |
| Cullis and Hinshelwood | DFSØAW-1947-2-117 |
| Cullis, et al. | PRLAAZ-1967-300-455 |
| Dahm and Verhoek | CBFMAØ-1968-12-380 |
| Hughes and Simmons | SYMCAQ-1969-12-449 |
| Hughes and Simmons | CBFMAØ-1970-14-103 |
| Karbassian, et al. | BSCFAS-1973-3249 |
| Knox and Kinnear | SYMCAQ-1971-13-217 |
| Kuhn and Wellman | WSCPAAH-1972-No. 72-41 |
| Lee and Malmberg | ACSRAL-1961-139-2J |
| Lewis and Von Elbe | BØØKA7-1961-90 (review) |
| Malherbe and Walsh | TFSØA4-1950-46-824 |
| Malherbe and Walsh | TFSØA4-1950-46-835 |
| Mulcahy, M. F. R. | DFSØAW-1947-2-128 |
| Neiman and Aivazov | NATUAS-1935-135-655 |
| Prettre, M. | CØREAF-1936-203-561 |
| Semenov, N. | BØØKA7-1935-332 (review) |
| Shtern, V. Ya. | BØØKA7-1964 (review) |
| Sochet, et al. | JCPBAN-1966-63-1555 |

$(\text{CH}_3)_2\text{CHCH}_2\text{CH}_3 + \text{O}_2 \rightarrow \text{products (overall)}$

| | |
|--------------------|----------------------------------|
| Allara and Edelson | RCTEA4-1972-45-437 (calculation) |
| Degtyareva, et al. | NEFTAH-1972-12-712 |
| Kirik, et al. | UYTIAx-1972-22-74 |
| Varkey and Sandler | CBFMAØ-1969-13-223 |

$(\text{CH}_3)_4\text{C} + \text{O}_2 \rightarrow \text{products (overall)}$

| | |
|---------------------------|---------------------|
| Antonik and Lucquin | BSCFAS-1968-2796 |
| Antonik and Lucquin | BSCFAS-1968-4043 |
| Drysdale, D. D. | CBFMAØ-1971-17-261 |
| Drysdale and Norrish | PRLAAZ-1969-308-305 |
| Falconer and Van Tiggelen | SYMCAQ-1963-9-689 |
| Falconer, et al. | JCSØA9-1961-782 |
| Falconer, et al. | JCSØA9-1961-4285 |
| Fish, A. | CBFMAØ-1969-13-23 |
| Ray and Waddington | BØØKA7-1975-721 |
| Seakins and Hinshelwood | PRLAAZ-1963-276-324 |
| Zeelenberg, A. P. | RTCPA3-1962-81-720 |

$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3 + \text{OH} \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\cdot$ [or $\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}(\cdot)\text{CH}_3$, or $\text{CH}_3\text{CH}_2\text{CH}(\cdot)\text{CH}_2$

| | |
|--------------------|--------------------------------|
| Chung and Sandler | CBFMAØ-1963-7-339 |
| Hughes and Simmons | SYMCAQ-1969-12-449 (mechanism) |

$(\text{CH}_3)_4\text{C} + \text{OH} \rightarrow (\text{CH}_3)_3\text{CCH}_2\cdot + \text{H}_2\text{O}$

| | |
|----------------------|---------------------------------|
| Baldwin, et al. | ADCSAJ-1968-76-124 |
| Drysdale and Norrish | PRLAAZ-1969-308-305 (mechanism) |
| Greiner, N. R. | JCPSA6-1970-53-1070 |
| Greiner, N. R. | JCPSA6-1970-53-1285 |

$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3 + \text{RØØ} \cdot \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\cdot$ [or $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}(\cdot)\text{CH}_3$, or $\text{CH}_3\text{CH}_2\text{CH}(\cdot)\text{C}$

| | |
|--------------------|--------------------------------|
| Hughes and Simmons | SYMCAQ-1969-12-449 (mechanism) |
|--------------------|--------------------------------|

$\text{CH}_3\text{CH}_2\text{C}(\text{Ø})\text{CH}_2\text{CH}_3 + \text{O}_2 \rightarrow \text{products (overall)}$

| | |
|--------------------|-------------------|
| Barnard, J. A. | ADCSAJ-1968-76-98 |
| Barnard and Sheikh | PSIRAA-1973-16-93 |

$(\text{CH}_3)_3\text{CCHØ} + \text{O}_2 \rightarrow (\text{CH}_3)_3\text{C} \cdot + \text{CØ} + \text{RØØ} \cdot$

| | |
|----------------------|---------------------------------|
| Drysdale and Norrish | PRLAAZ-1969-308-305 (mechanism) |
|----------------------|---------------------------------|

$(\text{CH}_3)_3\text{CCHØ} + \text{RØØ} \cdot \rightarrow (\text{CH}_3)_3\text{CC}(\text{Ø}) \cdot + \text{RØØH}$

| | |
|---------------------|------------------|
| Antonik and Lucquin | BSCFAS-1968-2796 |
| Antonik and Lucquin | BSCFAS-1971-3139 |

- $\text{CH}_3\text{CH}=\text{CHCH}(\text{OH})\text{CH}_3 \rightarrow \text{CH}_3\text{CH}=\text{CHCH}\cdot + \text{CH}_3\cdot + \text{OH}$
 Dahm and Verhoek CBFMA6-1968-12-380 (mechanism)
- $(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\text{CH}_3 \rightarrow \text{products}$
 Allara, et al. IJCKB6-1972-4-345 (calculation)
 Gray, et al. PRKNAZ-1967-4-63 (review)
- $(\text{CH}_3)_3\text{CCH}_2\cdot \rightarrow \text{products}$
 Fish, A. CBFMA6-1969-13-23 (mechanism)
- $(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\text{CH}_3 + \text{O}_2 \rightarrow (\text{CH}_3)_2\text{C}(\text{OO}\cdot)\text{CH}_2\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}(\text{CH}_3)\text{CH}(\cdot)\text{CH}_3 + \text{O}_2 \rightarrow \text{CH}_3\text{CH}(\text{CH}_3)\text{CH}(\text{OO}\cdot)\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\text{CH}_3 + \text{RH} \rightarrow (\text{CH}_3)_2\text{C}(\text{OH})\text{CH}_2\text{CH}_3 + \text{R}\cdot$
 Allara, et al. IJCKB6-1972-4-345 (calculation)
- $(\text{CH}_3)_3\text{CCH}_2\cdot + \text{RH} \rightarrow (\text{CH}_3)_3\text{CCH}_2\text{H} + \text{R}\cdot$
 Antonik and Lucquin BSCFAS-1971-3139
 Fish, A. CBFMA6-1969-13-23 (mechanism)
 Zeelenberg, A. P. RTCPA3-1962-81-720
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}(\text{OO}\cdot)\text{CH}_3$ [or $\text{CH}_3\text{CH}_2\text{CH}(\text{OO}\cdot)\text{CH}_2\text{CH}_3$] $\rightarrow \text{products}$
 Burgess and Robb TFS6A4-1958-54-1015
 Chung and Sandler CBFMA6-1963-7-339
 Dahm and Verhoek CBFMA6-1968-12-380 (mechanism)
 Hughes and Simmons SYMCAQ-1969-12-449 (mechanism)
 Knox and Kinnear SYMCAQ-1971-13-217
- $(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\text{CH}_3 \rightarrow (\text{CH}_3)_2\text{CO} + \text{CH}_3\text{CH}_2\cdot$ [or $\text{CH}_3\cdot + \text{CH}_3\text{C}(\cdot)\text{CH}_2\text{CH}_3$]
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}(\text{CH}_3)\text{CH}(\cdot)\text{CH}_3 \rightarrow \text{CH}_3\text{CH}(\cdot)\text{CH}_3 + \text{CH}_3\text{CHO}$ [or $\text{CH}_3\text{CH}(\text{CH}_3)\text{CHO} + \text{CH}_3\cdot$]
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\cdot\text{CH}_2\text{C}(\text{CH}_3)_2\text{CH}_2\text{OOH} \rightarrow \text{products}$
 Baker, et al. CBFMA6-1970-14-31
- $(\text{CH}_3)_3\text{CCH}_2\text{OO}\cdot \rightarrow \text{products}$
 Antonik and Lucquin BSCFAS-1968-2796
 Antonik and Lucquin BSCFAS-1971-3139
 Fish, A. CBFMA6-1969-13-23 (mechanism)
 Zeelenberg, A. P. RTCPA3-1962-81-720
- $\text{CH}_3\text{CH}(\cdot)\text{CH}_2\text{CH}(\text{OOH})\text{CH}_3 + \text{O}_2 \rightarrow \text{products}$
 Dahm and Verhoek CBFMA6-1968-12-380 (mechanism)
 Hughes and Simmons SYMCAQ-1969-12-449 (mechanism)
- $\text{CH}_3\text{OOCH}(\text{CH}_3)\text{CH}(\cdot)\text{CH}_3 + \text{O}_2 \rightarrow \text{CH}_3\text{OOCH}(\text{CH}_3)\text{CH}(\text{OO}\cdot)\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\cdot\text{CH}_2\text{C}(\text{CH}_3)_2\text{CH}_2\text{OOH} + \text{O}_2 \rightarrow \text{products}$
 Baker, et al. CBFMA6-1970-14-31

- $(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\text{CH}_2\text{CH}_3 + \text{O}_2 \rightarrow (\text{CH}_3)_2\text{C}(\text{OO}\cdot)\text{CH}_2\text{CH}_2\text{CH}_3$
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}(\text{OO}\cdot)\text{CH}_3 + \text{RH} \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}(\text{OOH})\text{CH}_3 + \text{R}\cdot$
 Dahm and Verhoek CBFMA6-1968-12-380 (mechanism)
 Knox and Kinnear SYMCAQ-1971-13-217
- $(\text{CH}_3)_2\text{CHCH}_2\text{CH}_2\text{OO}\cdot$ [or $(\text{CH}_3)_2\text{CHCH}(\text{OO}\cdot)\text{CH}_3$, or $(\text{CH}_3)_2\text{C}(\text{OO}\cdot)\text{CH}_2\text{CH}_3$] + RH →
 $(\text{CH}_3)_2\text{CHCH}_2\text{CH}_2\text{OOH}$ [or $(\text{CH}_3)_2\text{CHCH}(\text{OOH})\text{CH}_3$, or $(\text{CH}_3)_2\text{C}(\text{OOH})\text{CH}_2\text{CH}_3$] + R·
 Allara, et al. IJCKB6-1972-4-345 (calculation)
 Degtyareva, et al. NEFTAH-1972-12-854
 Degtyareva, et al. NEFTAH-1973-13-82
- $(\text{CH}_3)_3\text{CCH}_2\text{OO}\cdot + \text{RH} \rightarrow (\text{CH}_3)_3\text{CCH}_2\text{OOH} + \text{R}\cdot$
 Fish, A. CBFMA6-1969-13-23 (mechanism)
- $(\text{CH}_3)_2\text{C}(\text{OO}\cdot)\text{CH}_2\text{CH}_3 + \text{ROO}\cdot \rightarrow \text{products}$
 Allara, et al. IJCKB6-1972-4-345 (calculation)
- $\text{CH}_3\text{OOCH}(\text{CH}_3)\text{CH}(\cdot)\text{CH}_3 \rightarrow \text{CH}_3\text{OOCH}(\cdot)\text{CH}_3 + \text{CH}_3\text{CHO}$ [or $\text{CH}_3\text{OOCH}(\text{CH}_3)\text{CHO} + \text{CH}_3\cdot$]
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\text{CH}_2\text{CH}_3 \rightarrow (\text{CH}_3)_2\text{CO} + \text{CH}_3\text{OOCH}_2\cdot$ [or $\text{CH}_3\cdot + \text{CH}_3\text{C}(\cdot)\text{CH}_2\text{CH}_2\text{CH}_3$]
 Demerjian, et al. AESTC9-1974-4-1 (review)
- $(\text{CH}_3)_3\text{CCH}_3 \rightarrow (\text{CH}_3)_2\text{C}=\text{CH}_2 + \text{CH}_3\text{OH}$
 Choo, et al. IJCKB6-1974-6-631
- $(\text{CH}_3)_3\text{CCH}_2\text{OOH} \rightarrow (\text{CH}_3)_3\text{CCH}_2\text{OO}\cdot + \text{OH}$
 Antonik and Lucquin BSCFAS-1971-3139
 Fish, A. CBFMA6-1969-13-23 (mechanism)
- $(\text{CH}_3)_2\text{C}(\text{OOH})\text{CH}_2\text{CH}_3 + (\text{CH}_3)_2\text{C}(\text{OH})\text{CH}_2\text{CH}_3 \rightarrow 2(\text{CH}_3)_2\text{C}(\cdot)\text{CH}_2\text{CH}_3 + \text{H}_2\text{O}$
 Degtyareva, et al. NEFTAH-1972-12-854

C₆ Compounds

- CH₃CH=C=C(CH₃)₂ + σ → products
 Havel, J. J. JACSAT-1974-96-530
- CH₂=CHCH₂CH₂CH=CH₂ + σ₂ → products
 Salooja, K. C. CBFMAσ-1968-12-597
- CH₃CH₂CH₂CH₂CH=CH₂ + σ → products
 Cvetanović, R. J. CJCHAG-1960-38-1678 (review)
 Cvetanović, R. J. ADPCA2-1963-1-115 (review)
 Herron and Huie JPCRBU-1973-2-467 (review)
- (CH₃)₂C=C(CH₃)₂ + σ → products
 Cvetanović, R. J. JCPSA6-1960-33-1063
 Cvetanović, R. J. CJCHAG-1960-38-1678 (review)
 Cvetanović, R. J. ADPCA2-1963-1-115 (review)
 Cvetanović, R. J. JCPSA6-1959-30-19
 Davis, et al. JCPSA6-1973-59-628
 Furuyama, et al. IJCKBσ-1974-6-741
 Havel, J. J. JACSAT-1974-96-530
 Herron and Huie JPCRBU-1973-2-467 (review)
 Huie and Herron PRKNAZ-1975-8-1 (review)
- CH₃CH₂CH₂CH₂CH=CH₂ + σ₂ → products (overall)
 Bawn and Skirrow SYMCAQ-1955-5-521
 Kucher, et al. DBGGAM-1974-36-1019
 Nechitailo, et al. JOCYA9-1974-10-2035
 Salooja, K. C. CBFMAσ-1968-12-597
 Shtern, V. Ya. BσKA7-1964 (review)
 Skirrow, G. PRLAAZ-1958-244-345
- cis- or trans-CH₃CH₂CH₂CH=CHCH₃ + σ₂ → products
 Kucher, et al. DBGGAM-1974-36-1019
- CH₃CH₂CH₂CH₂CH=CH₂ + σ₃ → products
 Bufalini and Altshuller CJCHAG-1965-43-2243
 Cadle and Schadt JACSAT-1952-74-6002
 Cox and Penkett JCFTAR-1972-68-1735
 Hanst, et al. ACPCAT-1959-136-A7
 Japar, et al. JPCHAX-1974-78-2318
 Saltzman, B. E. IECHAD-1958-50-677
 Saltzman and Gilbert IECHAD-1959-51-1415
 Stedman, et al. JPCHAX-1973-77-2511
 Vrbaski and Cvetanović CJCHAG-1960-38-1053
 Wei and Cvetanović CJCHAG-1963-41-913
- cis- or trans-CH₃CH₂CH₂CH=CHCH₃ + σ₃ → products
 Wei and Cvetanović CJCHAG-1963-41-913
- CH₃CH₂CH₂C(CH₃)=CH₂ + σ₃ → products
 Cox and Penkett JCFTAR-1972-68-1735
 Wei and Cvetanović CJCHAG-1963-41-913
- (CH₃)₂CHCH₂CH=CH₂ + σ₃ → products
 Cox and Penkett JCFTAR-1972-68-1735
 Wei and Cvetanović CJCHAG-1963-41-913
- cis- or trans-(CH₃)₂CHCH=CHCH₃ + σ₃ → products
 Wei and Cvetanović CJCHAG-1963-41-913

- cis- or trans- $\text{CH}_3\text{CH}_2\text{C}(\text{CH}_3)=\text{CHCH}_3 + \theta_3 \rightarrow$ products
 Japar, et al. JPCHAX-1974-78-2318
 Wei and Cvetanović CJCHAG-1963-41-913
- $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}=\text{CH}_2 + \theta_3 \rightarrow$ products
 Wei and Cvetanović CJCHAG-1963-41-913
- $(\text{CH}_3)_2\text{C}=\text{C}(\text{CH}_3)_2 + \theta_3 \rightarrow$ products
 Huie and Herron IJCKBθ-1975-7-Sup. 1
 Japar, et al. JPCHAX-1974-78-2318
 Vrbaski and Cvetanović CJCHAG-1960-38-1053
 Wei and Cvetanović CJCHAG-1963-41-913
- $(\text{CH}_3)_2\text{C}=\text{C}(\text{CH}_3)_2 + \theta\text{H} \rightarrow$ products
 Morris and Niki JPCHAX-1971-75-3640
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{C}(\cdot)(\text{CH}_3)_2 + \theta_2 \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{C}(\text{CH}_3)_2\theta\theta$
 Cullis, et al. SYMCAQ-1963-9-167 (mechanism)
- $(\text{CH}_3)_2\text{CHC}(\cdot)(\text{CH}_3)_2$ [or $(\text{CH}_3)_2\text{CHCH}(\text{CH}_3)\text{CH}_2\cdot$] + $\theta_2 \rightarrow (\text{CH}_3)_2\text{CHC}(\text{CH}_3)_2\theta\theta$
 Fish and Wilson SYMCAQ-1971-13-229 (mechanism)
 Trimm and Cullis JCSθA9-1963-1430 (mechanism)
- $(\text{CH}_3)_2\text{CHC}(\cdot)(\text{CH}_3)_2$ [or $(\text{CH}_3)_2\text{CHCH}(\text{CH}_3)\text{CH}_2\cdot$] + $\theta\text{H} \rightarrow$ products
 Greiner, N. R. JCPSA6-1970-53-1070
- $\text{CH}_3(\text{CH}_2)_4\text{CH}_3 + \theta \rightarrow$ products
 Herron and Huie JPCHAX-1969-73-3327
 Herron and Huie JPCRBu-1973-2-467 (review)
 Huie and Herron PRKNAZ-1975-8-1 (review)
- $(\text{CH}_3)_2\text{CHCH}(\text{CH}_3)_2 + \theta \rightarrow$ products
 Herron and Huie JPCHAX-1969-73-3327
 Herron and Huie JPCRBu-1973-2-467 (review)
 Huie and Herron PRKNAZ-1975-8-1 (review)
- $\text{CH}_3(\text{CH}_2)_4\text{CH}_3 + \theta_2 \rightarrow$ products (overall)
 Bailey and Norrish PRLAAZ-1952-212-311
 Berry, et al. ADCSAJ-1968-76-86
 Cullis and Hinshelwood DFSθAW-1947-2-117
 Cullis and Mulcahy RIFPA9-1949-4-283
 Cullis, et al. PRLAAZ-1966-289-402
 Johnson, et al. IECHAD-1954-46-1512
 Kende and Gal CBFMAθ-1962-6-109
 Kuhn and Wellman WSCPAH-1972-No. 72-41
 Malherbe and Walsh TFSθA4-1950-46-824
 Malherbe and Walsh TFSθA4-1950-46-835
 Ohlmann, G. WZTLA3-1970-12-195
 Salooja, K. C. CBFMAθ-1962-6-275
 Salooja, K. C. CBFMAθ-1965-9-219
 Salooja, K. C. CBFMAθ-1968-12-597
 Shtern, V. Ya. BθθKA7-1964 (review)
 Wagner, H. Gg. SYMCAQ-1963-9-454
- $(\text{CH}_3)_2\text{CHCH}_2\text{CH}_2\text{CH}_3 + \theta_2 \rightarrow$ products (overall)
 Affleck and Fish SYMCAQ-1967-11-1003
 Atherton, et al. SYMCAQ-1973-14-513
 Cullis and Hinshelwood DFSθAW-1947-2-117
 Cullis and Mulcahy RIFPA9-1949-4-283
 Cullis, et al. SYMCAQ-1963-9-167 (mechanism)
 Cullis, et al. PRLAAZ-1959-251-265
 Fish, A. PRLAAZ-1966-293-378

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| $(\text{CH}_3)_2\text{CHCH}_2\text{CH}_2\text{CH}_3 + \text{O}_2 \rightarrow \text{products (overall)} \text{ (Cont'd)}$ | | |
| Fish, A. | PRLAAZ-1967-298-204 | |
| Fish, et al. | PRLAAZ-1969-313-261 | |
| Johnson, et al. | IECHAD-1954-46-1512 | |
| Salooja, K. C. | CBFMAØ-1962-6-275 | |
| Salooja, K. C. | CBFMAØ-1965-9-219 | |
| Salooja, K. C. | CBFMAØ-1968-12-597 | |
| $(\text{CH}_3\text{CH}_2)_2\text{CHCH}_3 + \text{O}_2 \rightarrow \text{products (overall)}$ | | |
| Barat, et al. | SYMCAQ-1971-13-179 | |
| Burt, et al. | CBFMAØ-1965-9-159 | |
| Cullis and Hinshelwood | DFSØAW-1947-2-117 | |
| Johnson, et al. | IECHAD-1954-46-1512 | |
| Salooja, K. C. | CBFMAØ-1962-6-275 | |
| Salooja, K. C. | CBFMAØ-1965-9-219 | |
| Salooja, K. C. | CBFMAØ-1968-12-597 | |
| $(\text{CH}_3)_3\text{CCH}_2\text{CH}_3 + \text{O}_2 \rightarrow \text{products (overall)}$ | | |
| Cullis and Hinshelwood | DFSØAW-1947-2-117 | |
| Johnson, et al. | IECHAD-1954-46-1512 | |
| Salooja, K. C. | CBFMAØ-1962-6-275 | |
| Salooja, K. C. | CBFMAØ-1965-9-219 | |
| Salooja, K. C. | CBFMAØ-1968-12-597 | |
| $(\text{CH}_3)_2\text{CHCH}(\text{CH}_3)_2 + \text{O}_2 \rightarrow \text{products (overall)}$ | | |
| Burt, et al. | CBFMAØ-1965-9-159 | |
| Cullis and Hinshelwood | DFSØAW-1947-2-117 | |
| Fish and Wilson | SYMCAQ-1971-13-229 | |
| Johnson, et al. | IECHAD-1954-46-1512 | |
| Mill and Montorsi | IJCKBØ-1973-5-119 | |
| Salooja, K. C. | CBFMAØ-1962-6-275 | |
| Salooja, K. C. | CBFMAØ-1965-9-219 | |
| Salooja, K. C. | CBFMAØ-1968-12-597 | |
| Trimm and Cullis | JCSØA9-1963-1430 | |
| $\text{CH}_3(\text{CH}_2)_4\text{CH}_3 + \text{O}_3 \rightarrow \text{products}$ | | |
| Razumovskii and Zaikov | DKPCAG-1973-212-806 | |
| $(\text{CH}_3\text{CH}_2)_2\text{CHCH}_3 + \text{O}_3 \rightarrow \text{products}$ | | |
| Razumovskii and Zaikov | DKPCAG-1973-212-806 | |
| $(\text{CH}_3)_2\text{CHCH}(\text{CH}_3)_2 + \text{OH} \rightarrow \text{products}$ | | |
| Fish and Wilson | SYMCAQ-1971-13-229 | (mechanism) |
| Greiner, N. R. | JCPSA6-1970-53-1070 | |
| Greiner, N. R. | JCPSA6-1970-53-1285 | |
| $\text{CH}_3\text{CH}_2\text{CH}_2\text{C}(\text{CH}_3)_2\text{O}^\bullet \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2^\bullet + (\text{CH}_3)_2\text{CO}$ | | |
| Cullis, et al. | SYMCAQ-1963-9-167 | (mechanism) |
| $(\text{CH}_3)_2\text{CHC}(\text{CH}_3)_2\text{O}^\bullet \rightarrow \text{products}$ | | |
| Trimm and Cullis | JCSØA9-1963-1430 | (mechanism) |
| $(\text{CH}_3)_3\text{CC}(\cdot)(\text{CH}_3)\text{OH} + \text{RH} \rightarrow (\text{CH}_3)_3\text{CCH}(\text{CH}_3)\text{OH} + \text{R}^\bullet$ | | |
| Trimm and Cullis | JCSØA9-1963-1430 | (mechanism) |
| $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}(\text{OO}\cdot)\text{CH}_3 \text{ [or } \text{CH}_3\text{CH}_2\text{CH}_2\text{CH}(\text{OO}\cdot)\text{CH}_2\text{CH}_3 \text{]} \rightarrow \text{products}$ | | |
| Burgess and Robb | TFSØA4-1958-54-1015 | |
| Cullis, et al. | PRLAAZ-1966-289-402 | |
| $\text{CH}_3\text{CH}_2\text{CH}_2\text{C}(\text{CH}_3)_2\text{OO}^\bullet \rightarrow \text{products}$ | | |
| Cullis, et al. | SYMCAQ-1963-9-167 | (mechanism) |

- $(\text{CH}_3)_2\text{CHC}(\text{CH}_3)_2\text{O}^\bullet \rightarrow \text{products}$
 Fish and Wilson SYMCAQ-1971-13-229 (mechanism)
 Trimm and Cullis JCSOA9-1963-1430 (mechanism)
- $\text{CH}_3\text{CH}(\text{O}^\bullet\text{H})\text{CH}_2\text{CH}(\cdot)\text{CH}_2\text{CH}_3 \rightarrow \text{products}$
 Cullis, et al. PRLAAZ-1966-289-402
- $(\text{CH}_3)_2\text{C}(\text{O}^\bullet\text{H})\text{C}(\cdot)(\text{CH}_3)_2$ [or $(\text{CH}_3)_2\text{C}(\text{O}^\bullet\text{H})\text{CH}(\text{CH}_3)\text{CH}_2\cdot$] $\rightarrow \text{products}$
 Fish and Wilson SYMCAQ-1971-13-229 (mechanism)
 Trimm and Cullis JCSOA9-1963-1430 (mechanism)
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{C}(\text{CH}_3)_2\text{O}^\bullet + \text{RH} \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{C}(\text{CH}_3)_2\text{O}^\bullet + \text{R}^\bullet$
 Cullis, et al. SYMCAQ-1963-9-167 (mechanism)
- $(\text{CH}_3)_2\text{CHC}(\text{CH}_3)_2\text{O}^\bullet + \text{RH} \rightarrow (\text{CH}_3)_2\text{CHC}(\text{CH}_3)_2\text{O}^\bullet + \text{R}^\bullet$
 Trimm and Cullis JCSOA9-1963-1430 (mechanism)
- $(\text{CH}_3)_2\text{CHO}^\bullet\text{CH}(\text{CH}_3)_2 + \text{O}_2 \rightarrow \text{products}$
 Minkoff and Tipper BOKA7-1962-184 (review)
 Shtern, V. Ya. BOKA7-1964 (review)
- $(\text{CH}_3)_2\text{C}(\text{O}^\bullet\text{H})\text{CH}_2\text{CH}_2\text{CH}_3 \rightarrow (\text{CH}_2)_2\text{C}(\text{O}^\bullet)\text{CH}_2\text{CH}_2\text{CH}_3 + \text{O}^\bullet\text{H}$
 Cullis, et al. SYMCAQ-1963-9-167 (mechanism)
- $(\text{CH}_3)_2\text{C}(\text{O}^\bullet\text{H})\text{CH}(\text{CH}_3)_2 \rightarrow (\text{CH}_3)_2\text{C}(\text{O}^\bullet)\text{CH}(\text{CH}_3)_2 + \text{O}^\bullet\text{H}$
 Trimm and Cullis JCSOA9-1963-1430 (mechanism)
- $\text{CH}_3\text{CH}_2\text{CH}_2\text{O}^\bullet\text{CH}_2\text{CH}_2\text{CH}_3 \rightarrow \text{CH}_3\text{CH}_2\text{CH}_2\text{O}^\bullet + \text{CH}_3\text{CH}_2\text{CH}_2\text{O}^\bullet$
 Benson and Neal NSRDAP-1970-21-429 (review)
 Gray, et al. PRKNAZ-1967-4-63 (review)
- $(\text{CH}_3)_2\text{CHO}^\bullet\text{CH}(\text{CH}_3)_2 + \text{O}_2 \rightarrow \text{products}$
 Chamberlain and Walsh RIFPA9-1949-4-301

C₇ Compounds

- CH₃(CH₂)₄CH=CH₂ + O₂ → products
Cullis, et al. PRLAAZ-1969-311-253
- CH₃(CH₂)₄CH=CH₂ + O₃ → products
Cadle and Schadt JACSAT-1952-74-6002
- cis- or trans-CH₃CH₂CH=CHCH₂CH₂CH₃ + O₃ → products
Hanst, et al. ACPCAT-1959-136-A7
- CH₃(CH₂)₄CH(·)CH₃ + O₂ → CH₃(CH₂)₄CH(OO·)CH₃
Schroder, et al. ZPCLAH-1964-225-175 (mechanism)
- (CH₃)₃CCH(CH₃)CH₂· [or ·CH₂C(CH₃)₂CH(CH₃)₂, or (CH₃)₃CC(·)(CH₃)₂] + OH → product
Greiner, N. R. JCPSA6-1970-53-1070
- CH₃(CH₂)₅CH₃ + O → products
Herron and Huie JPCHAX-1969-73-3327
Herron and Huie JPCRBUR-1973-2-467 (review)
Huie and Herron PRKNAZ-1975-8-1 (review)
Marsh and Heicklen JPCHAX-1967-71-250
Ohlmann, G. WZTLA3-1970-12-195
- (CH₃)₃CCH₂CH₂CH₃ + O → products
Herron and Huie JPCHAX-1969-73-3327
Herron and Huie JPCRBUR-1973-2-467 (review)
- (CH₃)₂CHCH₂CH(CH₃)₂ + O → products
Herron and Huie JPCHAX-1969-73-3327
Herron and Huie JPCRBUR-1973-2-467 (review)
- CH₃(CH₂)₅CH₃ + O₂ → products (overall)
Barnard and Harwood CBFMA6-1973-21-141
Bonner and Tipper CBFMA6-1965-9-387
Bonner and Tipper SYMCAQ-1965-10-145
Burgess and Laughlin CC6MA8-1967-769
Burgess and Laughlin CBFMA6-1972-19-315
Chen, et al. HHPA4-1966-32-1
Cullis, et al. PRLAAZ-1966-292-575
Cullis, et al. PRLAAZ-1969-311-253
Cullis, et al. PRLAAZ-1965-284-108
Cullis, et al. SYMCAQ-1971-13-195
Lischke, et al. ZPCLAH-1965-230-73
Ohlmann, G. WZTLA3-1970-12-195
Ohlmann, et al. ZPCLAH-1961-218-24
Ohlmann, et al. ZPCLAH-1961-218-42
Orr, C. R. SYMCAQ-1963-9-1034
Pospelov and Saraeva NEFTAH-1968-8-543
Richter, et al. ZPCLAH-1973-253-207
Richter, et al. ZPCLAH-1973-253-217
Salooja, K. C. CBFMA6-1968-12-597
Saraeva, et al. NEFTAH-1967-7-596
Schroder, et al. ZPCLAH-1964-225-175 (mechanism)
Shtern, V. Ya. B66KA7-1964 (review)
Szabo, et al. ACASA2-1972-74-239
Tipper and Titchard CBFMA6-1971-16-223
Yantovskii, S. A. KICAA8-1964-5-27
Yantovskii, S. A. KICAA8-1964-5-348
Yantovskii, S. Ya. KICAA8-1966-7-16
Yantovskii, S. A. KICAA8-1967-8-437

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| $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{CH}_3 + \text{O}_2 \rightarrow \text{products (overall)}$ | | |
| Öhlmann, et al. | ZPCLAH-1961-218-24 | |
| $(\text{CH}_3)_2\text{CHCH}_2\text{CH}(\text{CH}_3)_2 + \text{O}_2 \rightarrow \text{products (overall)}$ | | |
| Criegee and Ludwig | EKEPAB-1962-15-523 | |
| Mill and Montorsi | ACSRAL-1971-161-PETR-8 | |
| Mill and Montorsi | IJCKB-1973-5-119 | |
| $(\text{CH}_3\text{CH}_2)_3\text{CH} + \text{O}_2 \rightarrow \text{products (overall)}$ | | |
| Barat, et al. | PRLAAZ-1971-325-469 | |
| Barat, et al. | SYMCAQ-1971-13-179 | |
| $\text{CH}_3(\text{CH}_2)_5\text{CH}_3 + \text{OH} \rightarrow \text{products}$ | | |
| Cullis, et al. | PRLAAZ-1965-284-108 | |
| $(\text{CH}_3)_3\text{CCH}(\text{CH}_3)_2 + \text{OH} \rightarrow \text{products}$ | | |
| Greiner, N. R. | JCPSA6-1970-53-1070 | |
| $\text{CH}_3(\text{CH}_2)_5\text{CH}_3 + \text{HO}\cdot \rightarrow \text{products}$ | | |
| Cullis, et al. | PRLAAZ-1965-284-108 | |
| $\text{CH}_3(\text{CH}_2)_5\text{CH}\cdot + \text{O}_2 \rightarrow \text{CH}_3(\text{CH}_2)_5\text{C}(\text{O})\cdot + \text{HO}\cdot$ | | |
| Cullis, et al. | PRLAAZ-1965-284-108 | |
| $\text{CH}_3(\text{CH}_2)_4\text{CH}(\text{O}\cdot)\text{CH}_3 \rightarrow \text{products}$ | | |
| Burgess and Robb | TFS0A4-1958-54-1015 | |
| Schröder, et al. | ZPCLAH-1964-225-175 (mechanism) | |

C₈ Compounds

- (CH₃)₂C=CHCH=C(CH₃)₂ + θ₂ → products
Salooja, K. C. CBFMA6-1968-12-597
- CH₃(CH₂)₅CH=CH₂ + θ₂ → products
Altwickler and Basila TETRAB-1973-29-1969
- (CH₃)₂CHCH=CHCH(CH₃)₂ + θ₂ → products (overall)
Criegee and Ludwig EKEPAB-1962-15-523
- CH₃(CH₂)₅CH=CH₂ + θ₃ → products
Altwickler and Basila TETRAB-1973-29-1969
Cadle and Schadt JACSAT-1952-74-6002
- CH₃(CH₂)₆CH₂ · [or CH₃(CH₂)₅CH(·)CH₃, or CH₃(CH₂)₄CH(·)CH₂CH₃,
or CH₃(CH₂)₃CH(·)(CH₂)₂CH₃] + θH → products
Greiner, N. R. JCPA6-1970-53-1070
- (CH₃)₃CCH₂CH(CH₃)CH₂ · [or (CH₃)₃CCH₂C(·)(CH₃)₂, or (CH₃)₃CCH(·)CH(CH₃)₂,
or ·CH₂C(CH₃)₂CH₂CH(CH₃)₂] + θH → products
Greiner, N. R. JCPA6-1970-53-1070
- (CH₃)₃CC(CH₃)₂CH₂ · + θH → (CH₃)₃CC(CH₃)₂CH₂θH
Greiner, N. R. JCPA6-1970-53-1070
- CH₃(CH₂)₆CH₃ + θ → products
Avramenko, et al. BACCAT-1967-247
Herron and Huie JPCHAX-1969-73-3327
Herron and Huie JPCRBU-1973-2-467 (review)
Huie and Herron PRKNAZ-1975-8-1 (review)
- CH₃(CH₂)₃CH(CH₃)CH₂CH₃ + θ → products
Ford and Endow JCPA6-1957-27-1277
Herron and Huie JPCRBU-1973-2-467 (review)
- (CH₃)₃CCH₂CH(CH₃)₂ + θ → products
Herron and Huie JPCHAX-1969-73-3327
Herron and Huie JPCRBU-1973-2-467 (review)
Marsh and Heicklen JPCHAX-1967-71-250
Michaud, et al. JPCHAX-1974-78-1457
- (CH₃)₂CHCH(CH₃)CH(CH₃)₂ + θ → products
Herron and Huie JPCHAX-1969-73-3327
Herron and Huie JPCRBU-1973-2-467 (review)
- (CH₃)₃CC(CH₃)₃ + θ → products
Herron and Huie JPCHAX-1969-73-3327
Herron and Huie JPCRBU-1973-2-467 (review)
- CH₃(CH₂)₆CH₃ + θ₂ → products (overall)
Cullis and Hinshelwood DFS6AW-1947-2-117
Kuchta and Martindill CBFMA6-1967-11-212
Nettleton, M. A. FUELAC-1974-53-99
Salooja, K. C. CBFMA6-1968-12-597

- $\text{CH}_3(\text{CH}_2)_6\text{CH}_3 + \text{O}_2 \rightarrow \text{products (overall) (Cont'd)}$
 Shtern, V. Ya. BØØKA7-1964 (review)
 Yoshizawa and Kawada BJSEA8-1973-16-576
- $(\text{CH}_3)_2\text{CHCH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2 + \text{O}_2 \rightarrow \text{products (overall)}$
 Criegee and Ludwig EKEPAB-1962-15-523
 Øhlmann, et al. ZPCLAH-1961-218-24
- $(\text{CH}_3)_2\text{CHCH}(\text{CH}_3)\text{CH}(\text{CH}_3)_2 + \text{O}_2 \rightarrow \text{products (overall)}$
 Burt, et al. CBFMAØ-1965-9-159
- $(\text{CH}_3)_3\text{CCH}_2\text{CH}(\text{CH}_3)_2 + \text{O}_2 \rightarrow \text{products}$
 Barnard and Harwood CBFMAØ-1973-21-345
 Burt, et al. CBFMAØ-1965-9-159
 Nettleton, M. A. FUELAC-1974-53-99
 Øhlmann, G. WZLTA3-1970-12-195
 Øhlmann, et al. ZPCLAH-1961-218-24
 Ørr, C. R. SYMCAQ-1963-9-1034
 Polymeropoulos and Peskin CBSTBØ-1972-5-165 (review)
 Salooja, K. C. CBFMAØ-1968-12-597
 Shtern, V. Ya. BØØKA7-1964 (review)
 Yantovskii, S. Ya. KICAA8-1966-7-16
 Yantovskii, S. A. KICAA8-1967-8-437
- $\text{CH}_3(\text{CH}_2)_6\text{CH}_3 + \text{OH} \rightarrow \text{products}$
 Greiner, N. R. JCPSA6-1970-53-1070
- $(\text{CH}_3)_3\text{CCH}_2\text{CH}(\text{CH}_3)_2 + \text{OH} \rightarrow \text{products}$
 Greiner, N. R. JCPSA6-1970-53-1070
- $(\text{CH}_3)_3\text{CC}(\text{CH}_3)_3 + \text{OH} \rightarrow \text{products}$
 Greiner, N. R. JCPSA6-1970-53-1070
 Greiner, N. R. JCPSA6-1970-53-1285
- $(\text{CH}_3)_3\text{CCH}_2\text{C}(\text{CH}_3)_2\text{ØØH} \rightarrow \text{products}$
 Gray, et al. PRKNAZ-1967-4-63
- $(\text{CH}_3)_3\text{CØØC}(\text{CH}_3)_3 \rightarrow (\text{CH}_3)_3\text{C}(\text{Ø})\cdot + (\text{CH}_3)_3\text{C}(\text{Ø})\cdot$
 Allara, et al. IJCKBØ-1972-4-345 (calculation)
 Benson and Ø'Neal NSRDAP-1970-21-430 (review)
 Gray, et al. PRKNAZ-1967-4-63 (review)
 Raley, et al. JACSAT-1948-70-88
 Sokolova, et al. KICAA8-1973-14-977
- $(\text{CH}_3)_3\text{CØØC}(\text{CH}_3)_3 + \text{O}_2 \rightarrow \text{products}$
 Blake and Kutschke CJCHAG-1961-39-278

C₉ Compounds

- CH₃(CH₂)₆CH=CH₂ + O₂ → products (overall)
 Chernyak and Babil DBGGAM-1973-35-750
- CH₃(CH₂)₇CH₃ + O₂ → products (overall)
 Döring, et al. JPCEAØ-1967-35-236
 Pospelov and Saraeva NEFTAH-1968-8-543
 Saraeva, et al. NEFTAH-1967-7-596
- (CH₃)₂CH(CH₂)₅CH₃ + O₂ → products (overall)
 Döring, et al. JPCEAØ-1967-35-236
- CH₃CH₂CH(CH₃)CH₂(CH₂)₃CH₃ + O₂ → products (overall)
 Döring, et al. JPCEAØ-1967-35-236
- CH₃(CH₂)₂CH(CH₃)CH₂(CH₂)₂CH₃ + O₂ → products (overall)
 Döring, et al. JPCEAØ-1967-35-236
- (CH₃)₃CCH₂CH₂CH(CH₃)₂ + O₂ → products (overall)
 Cullis and Foster CBFMAØ-1974-23-347
- (CH₃CH₂)₂CH(CH₂)₃CH₃ + O₂ → products (overall)
 Döring, et al. JPCEAØ-1967-35-236
- (CH₃CH₂CH₂)₂CECH₂CH₃ + O₂ → products (overall)
 Döring, et al. JPCEAØ-1967-35-236

C₁₀ Compounds

- CH₃(CH₂)₇CH=CH₂ + O₂ → products (overall)
 Chernyak, et al. KICAA8-1973-14-685
- CH₃(CH₂)₇CH=CH₂ + O₃ → products
 Cadle and Schadt JACSAT-1952-74-6002
- CH₃(CH₂)₈CH₃ + O₂ → products (overall)
- | | |
|------------------------|---------------------|
| Cullis and Foster | CBFMA6-1974-23-347 |
| Cullis and Foster | SYMCAQ-1973-14-423 |
| Cullis and Hinshelwood | DFSCAW-1947-2-117 |
| Gol'dberg and Obukhova | NEFTAH-1963-3-223 |
| Maizus, et al. | KICAA8-1961-2-488 |
| Makarov, et al. | RJPCAR-1970-44-1431 |
| Syroezhko and Potekhin | JAPUAW-1973-46-1403 |
| Syroezhko, et al. | JAPUAW-1970-43-1803 |
| Syroezhko, et al. | JAPUAW-1970-43-2315 |
| Syroezhko, et al. | JAPUAW-1971-44-2082 |
| Syroezhko, et al. | JAPUAW-1973-46-402 |
| Vartanyan, et al. | ZFKHA9-1956-30-856 |
| Vartanyan, et al. | ZFKHA9-1955-29-862 |
- (CH₃)₂CH(CH₂)₄CH(CH₃)₂ + O₂ → products (overall)
 Vasil'ev, et al. BACCAT-1961-198
- CH₃(CH₂)₄OO(CH₂)₄CH₃ → CH₃(CH₂)₄O· + CH₃(CH₂)₄O·
 Gray, et al. PRKNAZ-1967-4-63 (review)
- (CH₃)₂C(CH₂CH₃)OO(CH₃CH₂)C(CH₃)₂ → products
 Raley, et al. JACSAT-1948-70-88

REVIEWS

| | |
|---------------------------|------------------------------|
| Altshuller and Bufalini | ESTHAG-1971-5-39 |
| Avramenko and Kolesnikova | ADPCA2-1964-2-25 |
| Baldwin and Walker | CBFMA0-1973-21-55 |
| Baldwin and Walker | SYMCAQ-1973-14-241 |
| Benson and Neal | NSRDAP-1970 |
| Cvetanović, R. J. | CJCHAG-1960-38-1678 |
| Cvetanović, R. J. | ADPCA2-1963-1-115 |
| Demerjian, et al. | AESTC9-1974-4-1 |
| Drysdale and Lloyd | GX CRA4-1970-4-157 |
| Engleman, V. S. | EPTSBT-1976-600/2:76:003-5/1 |
| Fish, A. | QUREA7-1964-18-243 |
| Fish, A. | ADCSAJ-1968-76-69 |
| Fish, A. | ANCEAD-1968-80-53 |
| Gray, et al. | PRKNAZ-1967-4-63 |
| Hampson and Garvin | NBTNAE-1975-866 |
| Hecht and Sienfeld | ESTHAG-1972-6-47 |
| Heicklen, J. | ADCSAJ-1968-76-23 |
| Herron, J. T. | IJCKB0-1969-1-527 |
| Herron and Huie | JPCRBU-1973-2-467 |
| Huie and Herron | PRKNAZ-1975-8-1 |
| Knox, J. H. | ARPCAW-1962-59-18 |
| Knox, J. H. | B00KA7-1967-250 |
| Knox, J. H. | ADCSAJ-1968-76-1 |
| Lewis and Von Elbe | B00KA7-1961-90 |
| Lloyd, A. C. | IJCKB0-1974-6-169 |
| McMillan and Calvert | GX CRA4-1965-1-83 |
| Minkoff and Tipper | B00KA7-1962 |
| Minkoff and Tipper | B00KA7-1962-151 |
| Minkoff and Tipper | B00KA7-1962-136 |
| Nalbandyan, A. B. | 28KMA4-1972-140 |
| Niki, et al. | ADCSAJ-1972-113-16 |
| Norrish, R. G. W. | RIFPA9-1949-4-288 |
| Ohlmann and Leibnitz | ZPCLAH-1961-217-408 |
| Pitts and Finlayson | XADRCH-AD 763755 |
| Schofield, K. | PLSSAE-1967-15-643 |
| Semenoff, N. | B00KA7-1935 |
| Semenov, N. N. | B00KA7-1959-2-217 |
| Semenov, N. N. | B00KA7-1967-229 |
| Shtern, V. Ya. | B00KA7-1964 |
| Steacie, E. W. R. | ACM0AG-1954-125-1 |
| Steacie, E. W. R. | ACM0AG-1954-125-2 |
| Walker, R. W. | REKIDM-1975-1-161 |
| Williams and Smith | CHREAY-1970-70-267 |
| Wilson, Wm. E., Jr. | JPCRBU-1972-1-535 |

Generalized Reaction Mechanism and Kinetics

| | |
|---------------------------|---------------------|
| Allara and Edelson | RCTEA4-1972-45-437 |
| Antonik and Lucquin | BSCFAS-1971-3139 |
| Atherton, et al. | SYMCAQ-1973-14-513 |
| Avramenko and Kolesnikova | DANKAS-1953-92-349 |
| Avramenko and Kolesnikova | BACCAT-1955-345 |
| Baldwin and Walker | CBFMAQ-1973-21-55 |
| Barat, et al. | PRLAAZ-1971-325-469 |
| Barat, et al. | SYMCAQ-1971-13-179 |
| Bateman, et al. | DFSQAW-1951-10-250 |
| Bell, et al. | DFSQAW-1951-10-242 |
| Benson, S. W. | JACSAT-1965-87-972 |
| Benson, S. W. | ADCSAJ-1968-76-143 |
| Burgess and Robb | TFSQ4-1958-54-1015 |
| Burt, et al. | CBFMAQ-1965-9-159 |
| Criegee and Ludwig | EKEPAB-1962-15-523 |
| Cullis, et al. | PRLAAZ-1969-311-253 |
| Cullis, et al. | SYMCAQ-1971-13-195 |
| Déchaux and Lucquin | SYMCAQ-1971-13-205 |
| Enikolopyan, et al. | ZFKHA9-1958-32-2224 |
| Euker, C. A., Jr. | DABBBA-1970-30-4115 |
| Euker and Leinroth | CBFMAQ-1970-15-275 |
| Fish, A. | ADCSAJ-1968-76-69 |
| Fish, A. | ANCEAD-1968-80-53 |
| Hecht, et al. | ESTHAG-1974-8-327 |
| Heicklen, J. | ADCSAJ-1968-76-23 |
| Heicklen and Johnston | JACSAT-1962-84-4394 |
| Hermant, et al. | BSCFAS-1970-473 |
| Hinshelwood, C. N. | DFSQAW-1951-10-266 |
| Knox, J. H. | SYMCAQ-1959-7-122 |
| Knox, J. H. | ADCSAJ-1968-76-1 |
| Knox, J. H. | CCQMA8-1965-108 |
| Knox, J. H. | CBFMAQ-1965-9-297 |
| Knox, J. H. | BQKA7-1967-250 |
| Lischke, et al. | ZPCLAH-1965-230-73 |
| Mantashyan and Nalbandyan | RJPCAR-1972-46-1731 |
| Minkoff and Tipper | BQKA7-1962-100 |
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| Mulcahy, M. F. R. | DFSQAW-1951-10-259 |
| Norrish, R. G. W. | RIFPA9-1949-4-288 |
| Norrish, R. G. W. | DFSQAW-1951-10-269 |
| Noyes, W. A., Jr. | BQKA7-1957-64 |
| Ohlmann and Leibnitz | ZPCLAH-1961-217-408 |
| Poroikova, et al. | KICAA8-1967-8-988 |
| Ridge, M. J. | RPCAAW-1956-6 |
| Sato and Cvetanović | CJCHAG-1959-37-953 |
| Schröder, et al. | ZPCLAH-1964-225-175 |
| Seakins and Hinshelwood | PRLAAZ-1963-276-324 |
| Semenov, N. N. | BQKA7-1959-2 |
| Semenov, N. N. | BQKA7-1967-229 |
| Shtern, V. Ya. | BQKA7-1964 |
| Subbaratnam, N. R. | ZPCFAX-1965-44-35 |
| Vartanyan, et al. | ZFKHA9-1956-30-862 |
| Vasil'ev, et al. | BACCAT-1961-198 |
| Von Elbe and Lewis | JACSAT-1937-59-976 |
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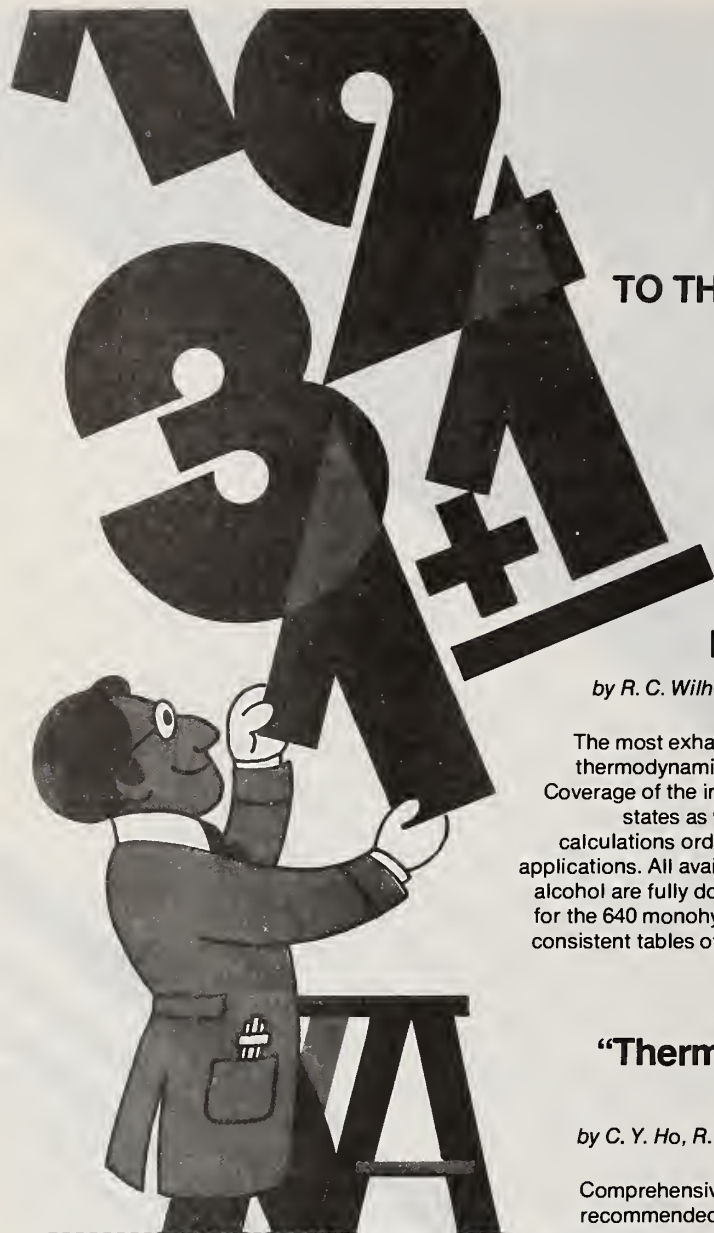
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