

Subject Index

Acetophenone

- photochemistry of α -phenoxyacetophenone: an interesting case of intramolecular triplet deactivation, 253

Acid-base equilibria

- spectrofluorometric characteristics and acid-base equilibria of serpentine, 351

Acridone

- solvatochromic effects in the fluorescence and triplet-triplet absorption spectra of xanthone, thioxanthone and *N*-methylacridone, 49

Acylphosphine oxides

- photolysis of acylphosphine oxides II: the influence of methyl substitution in benzoyldiphenylphosphine oxides, 119
- the photolysis of acylphosphine oxides III: laser flash photolysis studies with pivaloyl compounds, 191

Adsorbed species

- optically detected magnetic resonance of adsorbed species on sapphire, 261

Aniline

- the *N,N*-dimethylaniline-photosensitized dechlorination of chlorobenzenes, 203

Anilinomethanesulphonates

- photoreduction of safranin by substituted anilinomethanesulphonates, 379

Anthracenes

- studies on the fluorescence properties of meso-substituted amidoanthracenes, 59

Benzaldehyde

- photopolymerization of benzaldehyde vapour at 366 nm, 293

Benzenes

- ^{13}C nuclear magnetic resonance spectroscopy and lifetime studies of the solution photoreactivity of 1,4-bis-(β -pyridyl-2-vinyl)benzene and 2,5-distyrylpyrazine, 387

Benzenes

- N*-dealkylation of electronically excited coumarins by nitrobenzenes, 243
- the *N,N*-dimethylaniline-photosensitized dechlorination of chlorobenzenes, 203
- the fluorescence quenching of 1,4-bis-[2-(5-phenyloxazolyl)]benzene by bromomethanes, 341

Benzoin

- photolysis of α -phenylbenzoin in micellar solutions: formation of a rearranged radical-pair combination product, 319

Benzonitrile

- solute-solvent exciplexes in the photoinduced formation of radical ions of 4-*N,N*-dimethylaminobenzonitrile and related compounds, 217

Benzophenone

- quenching effect of thiophene and methylmaleic anhydrides on the photoreduction of benzophenone: a mechanistic study of their photosensitized cycloadditions, 363

Borane

- UV laser photochemistry of diborane at 193 nm: quantum yield for BH_3 production, 139

Boronates

- spectroscopy, photophysics and photochemistry of 1,3-diketoboronates IV: luminescence spectroscopic investigations of 2-naphthyl-substituted 1,3-diketoboronates, 177

Bromomethanes

- the fluorescence quenching of 1,4-bis-[2-(5-phenyloxazolyl)]benzene by bromomethanes, 341

1,2-butadiene

- the 147 nm photolysis of either oxygen or nitrous oxide in the presence of 1,2-butadiene: reactions of oxygen atoms, 9

1-butyne

- the vacuum and very far UV photolysis of 1-butyne: the effects of added molecular oxygen, 17

Chlorine

self-sensitization of photo-chlorine evolution in aqueous dispersions of silver zeolites, 151

¹³C nuclear magnetic resonance spectroscopy

¹³C nuclear magnetic resonance spectroscopy and lifetime studies of the solution photoreactivity of 1,4-bis-(β-pyridyl-2-vinyl)benzene and 2,5-distyrylpyrazine, 387

Conformation

photochemistry of 2-vinylstilbenes: configurational and conformational conditions for the [2 + 2]-photocycloaddition intramolecular trapping of the twisted singlet state of stilbene, 105

Copper

mechanistic studies of the sensitized photoreduction of bis(acetylacetonato)copper(II) by phenylalkyl ketones, 165

Coumarins

absorption and fluorescence spectra of 7-aminocoumarin derivatives, 69

N-dealkylation of electronically excited coumarins by nitrobenzenes, 243

Cycloaddition

quenching effect of thiophene and methylmaleic anhydrides on the photoreduction of benzophenone: a mechanistic study of their photosensitized cycloaddition, 363

Cyclobutanethiones

laser flash photolysis study of triplets of cyclobutanethiones, 331

Cyclodextrins

microenvironmental effects of cyclodextrins I: enhancement of intramolecular excimer formation of polymethylene-bis-β-naphthoate via inclusion with cyclodextrins, 311

N-dealkylation

N-dealkylation of electronically excited coumarins by nitrobenzenes, 243

Dechlorination

the *N,N*-dimethylaniline-photosensitized dechlorination of chlorobenzenes, 203

Diborane

UV laser photochemistry of diborane at 193 nm: quantum yield for BH₃ production, 139

Dienones

photoinduced electron transfer reactions: oxidation of electron-rich dioxenes and 2,3,5,6-tetraphenyl-*p*-dioxin induced by 2,4,4,6-tetrabromocyclohexa-2,5-dienone, 95

Dioxenes

photoinduced electron transfer reactions: oxidation of electron-rich dioxenes and 2,3,5,6-tetraphenyl-*p*-dioxin induced by 2,4,4,6-tetrabromocyclohexa-2,5-dienone, 95

p-Dioxin

photoinduced electron transfer reactions: oxidation of electron-rich dioxenes and 2,3,5,6-tetraphenyl-*p*-dioxin induced by 2,4,4,6-tetrabromocyclohexa-2,5-dienone, 95

Dispersions

polymer viologen as a stabilizing agent of colloidal platinum for photoinduced electron transfer reactions, 143

self-sensitization of photo-chlorine evolution in aqueous dispersions of silver zeolites, 151

Electron transfer

photoinduced electron transfer reactions: oxidation of electron-rich dioxenes and 2,3,5,6-tetraphenyl-*p*-dioxin induced by 2,4,4,6-tetrabromocyclohexa-2,5-dienone, 95

polymer viologen as a stabilizing agent of colloidal platinum for photoinduced electron transfer reactions, 143

Excimers

microenvironmental effects of cyclodextrins I: enhancement of intramolecular excimer formation of polymethylene-bis-β-naphthoate via inclusion with cyclodextrins, 311

Exciplexes

solute-solvent exciplexes in the photoinduced formation of radical ions of 4-*N,N*-dimethylaminobenzonitrile and related compounds, 217

Fluoroethanes

competitive photochlorination of the fluoroethanes CH₃CHF₂, CH₂FCH₂F and CHF₂CHF₂, 25

Inclusion

microenvironmental effects of cyclo-

- dextrins I: enhancement of intramolecular excimer formation of polymethylene-bis- β -naphthoate via inclusion with cyclodextrins, 311
- IR laser**
 IR-laser-induced sensitized organic reactions: an example of rate control by vibrational energy transfer, 265
- Isocyanine**
 direct measurement of the picosecond decay time of the J aggregate of pseudoisocyanine iodide using an optically compressed frequency-doubled continuous wave Nd-YAG laser and a synchronously operating streak camera, 325
- J aggregate**
 direct measurement of the picosecond decay time of the J aggregate of pseudoisocyanine iodide using an optically compressed frequency-doubled continuous wave Nd-YAG laser and a synchronously operating streak camera, 325
- Ketones**
 mechanistic studies of the sensitized photoreduction of bis(acetylacetonato)copper(II) by phenylalkyl ketones, 165
- Localized states**
 localized states in dichloronaphthalene crystals, 303
- Luminescence**
 spectroscopy, photophysics and photochemistry of 1,3-diketoboronates IV: luminescence spectroscopic investigations of 2-naphthyl-substituted 1,3-diketoboronates, 177
- Meso compounds**
 studies on the fluorescence properties of meso-substituted amidoanthracenes, 59
- Methylmaleic anhydrides**
 quenching effect of thiophene and methylmaleic anhydrides on the photoreduction of benzophenone: a mechanistic study of their photosensitized cycloaddition, 363
- Methyl substitution**
 photolysis of acylphosphine oxides II: the influence of methyl substitution in benzyldiphenylphosphine oxides, 119
- Micelles**
 photolysis of α -phenylbenzoin in micellar solutions: formation of a rearranged radical-pair combination product, 319
- Naphthalene**
 localized states in dichloronaphthalene crystals, 303
- Naphthoates**
 microenvironmental effects of cyclodextrins I: enhancement of intramolecular excimer formation of polymethylene-bis- β -naphthoate via inclusion with cyclodextrins, 311
- Naphthyl substitution**
 spectroscopy, photophysics and photochemistry of 1,3-diketoboronates IV: luminescence spectroscopic investigations of 2-naphthyl-substituted 1,3-diketoboronates, 177
- Nitrogen**
 rate constant for the reaction $\text{Na} + \text{O}_2 + \text{N}_2 \rightarrow \text{NaO}_2 + \text{N}_2$ under mesospheric conditions, 1
- Nitrous oxide**
 the 147 nm photolysis of either oxygen or nitrous oxide in the presence of 1,2-butadiene: reactions of oxygen atoms, 9
- Nitroxy radicals**
 singlet oxygen quenching by stable nitroxy radicals, 157
- Optically detected magnetic resonance**
 optically detected magnetic resonance of adsorbed species on sapphire, 261
- Oxazole**
 proton transfer of 2-(2'-hydroxyphenyl)benzoxazole in the excited singlet state, 235
- Oxidation**
 photoinduced electron transfer reactions: oxidation of electron-rich dioxenes and 2,3,5,6-tetraphenyl-p-dioxin induced by 2,4,4,6-tetrabromocyclohexa-2,5-dienone, 95
- Oxygen**
 rate constant for the reaction $\text{Na} + \text{O}_2 + \text{N}_2 \rightarrow \text{NaO}_2 + \text{N}_2$ under mesospheric conditions, 1

- singlet oxygen quenching by stable nitroxy radicals, 157
 - the 147 nm photolysis of either oxygen or nitrous oxide in the presence of 1,2-butadiene: reactions of oxygen atoms, 9
 - the vacuum and very far UV photolysis of 1-butyne: the effects of added molecular oxygen, 17
- Ozone**
 - the photodissociation of vibrationally excited ozone in the upper atmosphere, 133
- Photochlorination**
 - competitive photochlorination of the fluoroethanes CH_3CHF_2 , $\text{CH}_2\text{FCH}_2\text{F}$ and CHF_2CHF_2 , 25
- Photocycloaddition**
 - photochemistry of 2-vinylstilbenes: configurational and conformational conditions for the [2 + 2]-photocycloaddition intramolecular trapping of the twisted singlet state of stilbene, 105
 - photocyclization reaction of 5-styryl-1,3-dimethyluracil, 369
- Photodissociation**
 - the photodissociation of vibrationally excited ozone in the upper atmosphere, 133
- Phase modulation fluorometry**
 - determination of the rate constant of the solvent cage reorientation around a photoexcited molecule using phase modulation fluorometry, 39
- Photolysis**
 - laser flash photolysis study of triplets of cyclobutanethiones, 331
 - photolysis of acylphosphine oxides
 - II: the influence of methyl substitution in benzoyldiphenylphosphine oxides, 119
 - photolysis of α -phenylbenzoin in micellar solutions: formation of a rearranged radical-pair combination product, 319
 - propylene photolysis at 6.7 eV: calculation of the quantum yields for the secondary processes, 281
 - the 147 nm photolysis of either oxygen or nitrous oxide in the presence of 1,2-butadiene: reactions of oxygen atoms, 9
 - the photolysis of acylphosphine oxides
 - III: laser flash photolysis studies with pivaloyl compounds, 191
 - the vacuum and very far UV photolysis of 1-butyne: the effects of added molecular oxygen, 17
- Photopolymerization**
 - photopolymerization of benzaldehyde vapour at 366 nm, 293
- Photoreactivity**
 - ^{13}C nuclear magnetic resonance spectroscopy and lifetime studies of the solution photoreactivity of 1,4-bis-(β -pyridyl-2-vinyl)benzene and 2,5-distyrylpyrazine, 387
- Photoreduction**
 - mechanistic studies of the sensitized photoreduction of bis(acetylacetonato)copper(II) by phenylalkyl ketones, 165
 - photoreduction of safranin by substituted anilinomethanesulphonates, 379
- Pivaloyl compounds**
 - the photolysis of acylphosphine oxides
 - III: laser flash photolysis studies with pivaloyl compounds, 191
- Platinum**
 - polymer viologen as a stabilizing agent of colloidal platinum for photo-induced electron transfer reactions, 143
- Propylene**
 - propylene photolysis at 6.7 eV: calculation of the quantum yields for the secondary processes, 281
- Proton transfer**
 - proton transfer of 2-(2'-hydroxyphenyl)benzoxazole in the excited singlet state, 235
- Pyrylium salts**
 - temperature and solvent viscosity effects on the absorption and fluorescence spectra of a series of pyrylium salts, 81
- Pyrazine**
 - ^{13}C nuclear magnetic resonance spectroscopy and lifetime studies of the solution photoreactivity of 1,4-bis-(β -pyridyl-2-vinyl)benzene and 2,5-distyrylpyrazine, 387
- Quenching**
 - quenching effect of thiophene and methylmaleic anhydrides on the

- photoreduction of benzophenone:
a mechanistic study of their photo-
sensitized cycloaddition, 363
- singlet oxygen quenching by stable
nitroxy radicals, 157
- the fluorescence quenching of 1,4-bis-
[2-(5-phenyloxazolyl)]-benzene by
bromomethanes, 341
- Radical ions**
solute-solvent exciplexes in the photo-
induced formation of radical ions
of 4-*N,N*-dimethylaminobenzonitrile
and related compounds, 217
- Radical pairs**
photolysis of α -phenylbenzoin in mi-
cellar solutions: formation of a
rearranged radical-pair combination
product, 319
- Rate control**
IR-laser-induced sensitized organic
reactions: an example of rate con-
trol by vibrational energy transfer,
265
- Safranine**
photoreduction of safranine by substi-
tuted anilinomethanesulphonates,
379
- Sapphire**
optically detected magnetic resonance
of adsorbed species on sapphire, 261
- Serpentine**
spectrofluorometric characteristics and
acid-base equilibria of serpentine,
351
- Sensitization**
IR-laser-induced sensitized organic
reactions: an example of rate con-
trol by vibrational energy transfer,
265
- mechanistic studies of the sensitized
photoreduction of bis(acetylaceto-
nato)copper(II) by phenylalkyl
ketones, 165
- quenching effect of thiophene and
methylmaleic anhydrides on the
photoreduction of benzophenone:
a mechanistic study of their photo-
sensitized cycloaddition, 363
- self-sensitization of photo-chlorine
evolution in aqueous dispersions of
silver zeolites, 151
- the *N,N*-dimethylaniline-photosensi-
tized dechlorination of chloroben-
zenes, 203
- Silver**
self-sensitization of photo-chlorine
evolution in aqueous dispersions of
silver zeolites, 151
- Sodium**
rate constant for the reaction $\text{Na} +$
 $\text{O}_2 + \text{N}_2 \rightarrow \text{NaO}_2 + \text{N}_2$ under meso-
spheric conditions, 1
- Solvatochromism**
solvatochromic effects in the fluores-
cence and triplet-triplet absorption
spectra of xanthone, thioxanthone
and *N*-methylacridone, 49
- Solvent**
determination of the rate constant of
the solvent cage reorientation around
a photoexcited molecule using phase
modulation fluorometry, 39
- Stabilizing agent**
polymer viologen as a stabilizing agent
of colloidal platinum for photo-
induced electron transfer reactions,
143
- Stilbenes**
photochemistry of 2-vinylstilbenes:
configurational and conformational
conditions for the [2 + 2]-photo-
cycloaddition intramolecular trap-
ping of the twisted singlet state of
stilbene, 105
- Streak camera**
direct measurement of the picosecond
decay time of the J aggregate of
pseudoisocyanine iodide using an
optically compressed frequency-
doubled continuous wave Nd-YAG
laser and a synchronously operating
streak camera, 325
- Temperature effects**
temperature and solvent viscosity
effects on the absorption and fluo-
rescence spectra of a series of pyry-
lium salts, 81
- Thiophene**
quenching effect of thiophene and
methylmaleic anhydrides on the
photoreduction of benzophenone:
a mechanistic study of their photo-
sensitized cycloadditions, 363
- Trapping**
photochemistry of 2-vinylstilbenes:
configurational and conformational
conditions for the [2 + 2] - photo-
cycloaddition intramolecular trap-

- ping of the twisted singlet state of stilbene, 105
- Triplet deactivation**
photochemistry of α -phenoxyacetophenone: an interesting case of intramolecular triplet deactivation, 253
- Triplet-triplet absorption**
solvatochromic effects in the fluorescence and triplet-triplet absorption spectra of xanthone, thioxanthone and *N*-methylacridone, 49
- Twisted singlet state**
photochemistry of 2-vinylstilbenes: configurational and conformational conditions for the [2 + 2]-photocycloaddition intramolecular trapping of the twisted singlet state of stilbene, 105
- Upper atmosphere**
rate constant for the reaction $\text{Na} + \text{O}_2 + \text{N}_2 \rightarrow \text{NaO}_2 + \text{N}_2$ under mesospheric conditions, 1
the photodissociation of vibrationally excited ozone in the upper atmosphere, 133
- Uracil**
photocyclization reaction of 5-styryl-1,3-dimethyluracil, 369
- Vibrational energy transfer**
IR-laser-induced sensitized organic reactions: an example of rate control by vibrational energy transfer, 265
- Vibrational excitation**
the photodissociation of vibrationally excited ozone in the upper atmosphere, 133
- Viologen**
polymer viologen as a stabilizing agent of colloidal platinum for photo-induced electron transfer reactions, 143
- Viscosity effects**
temperature and solvent viscosity effects on the absorption and fluorescence spectra of a series of pyrylium salts, 81
- Xanthone**
solvatochromic effects in the fluorescence and triplet-triplet absorption spectra of xanthone, thioxanthone and *N*-methylacridone, 49
- Zeolites**
self-sensitization of photo-chlorine evolution in aqueous dispersions of silver zeolites, 151

