

Subject Index

Acids

- acid effect on photochromism on spiro-pyrans: a study by microsecond and nanosecond flash photolysis, 123

Acridine dyes

- thermal deactivation of the lowest singlet and triplet excited states of acridine dyes in poly(vinyl alcohol) films, 265

Adrenochrome

- luminescence studies of physostigmine, rubreserine and adrenochrome, 345

Alcohols

- spectral evidence for long-lived radical-electron pairs: photoionization of phenol in alcohols, 193

Alkanes

- mechanism of S_1 deactivation in alkanes: heavy-atom effect, 49

Alkyl halides

- photo-oxidation of CF_2ClBr and competitive reactions of CF_2Cl radicals with O_2 , Br_2 , Cl_2 and HBr , 7
- relative reactivity of Cl atoms with NO , NO_2 and $HCCl_2F$ at room temperature and atmospheric pressure, 21

Aniline

- triplet-state properties of *N,N*-dimethylaniline: laser flash photolysis study, 233

Anisole

- the meta photocycloaddition of anisole and benzene to 2-methyl-1,3-dioxole, 381

Anthraquinone

- primary photoreduction of 1,8-dichloroanthraquinone by triethylamine studied by laser spectroscopy, 143

Axial ligation

- influence of axial ligation on the fluorescence of tetrakisphenylporphyrins, 105

Benzene

- the meta photocycloaddition of anisole and benzene to 2-methyl-1,3-dioxole, 381

Benzimidazole

- photoluminescence of 2-(*o*-aminophenyl)benzimidazole, 333

Betaine

- photoacoustic measurements and MINDO/3 calculations of energy storage by short-lived species; the spiro[1,8-*a*]dihydroidolizine-betaine system, 297

Biphenyls

- effect of temperature on the triplet states of methyl- and phenyl-substituted biphenyl molecules, 273

1,2-Bispyrazylethylene

- nanosecond laser flash photolysis study of 1,2-bispyrazylethylene, 223

Bromine

- photo-oxidation of CF_2ClBr and competitive reactions of CF_2Cl radicals with O_2 , Br_2 , Cl_2 and HBr , 7

β -Carboline

- β -carboline as a fluorescence standard, 113

Cellulose

- the effect of visible and near-UV radiation on preheated cellulose: a photochromic phenomenon, 359

Chelates

- effect of chelate ring size on the photoanation reaction of polypyridine ruthenium complexes, 199

Chlorine

- photo-oxidation of CF_2ClBr and competitive reactions of CF_2Cl radicals with O_2 , Br_2 , Cl_2 and HBr , 7
- relative reactivity of Cl atoms with NO , NO_2 and $HCCl_2F$ at room temperature and atmospheric pressure, 21

Cleavage

- photochemical α cleavage of ketones as radiationless transitions, 315

Competitive reactions

- photo-oxidation of CF_2ClBr and competitive reactions of CF_2Cl radicals with O_2 , Br_2 , Cl_2 and HBr , 7

Complexes

- effect of chelate ring size on the photo-oxidation reaction of polypyridine ruthenium complexes, 199
- investigation of a long-lived intermediate in the photo-oxidation of chlorocuprate(I) complexes, 211
- the oxidizing products of the photolysis of water catalysed by the titanium(IV) complex formed from polymerized *n*-butyl-*o*-titanate and methanol, 57

Copper

- investigation of a long-lived intermediate in the photo-oxidation of chlorocuprate(I) complexes, 211

Dichlorobenzene

- photolysis of dichlorobenzene vapour in the presence of ethane, 157

Dimerization

- luminescence of porphyrins and metalloporphyrins IX: dimerization of meso-tetrakis(*N*-methyl-4-pyridyl)-porphine, 97

Dioxole

- the meta photocycloaddition of anisole and benzene to 2-methyl-1,3-dioxole, 381

Electron donors

- quenching of excimers by electron donors, 247

Energy storage

- photoacoustic measurements and MINDO/3 calculations of energy storage by short-lived species; the spiro[1,8-*a*]dihydroindolizine-betaine system, 297

Equilibria

- acid-base and tautomeric equilibria of harmol in the ground and first excited singlet states, 253

Ethane

- photolysis of dichlorobenzene vapour in the presence of ethane, 157

Excimers

- quenching of excimers by electron donors, 247

Excitation models

- a critique of excitation models for partial saturation of transient absorbance, 179

Flash photolysis

- acid effect on photochromism of spiro-

- pyrans: a study by microsecond and nanosecond flash photolysis, 123
- nanosecond laser flash photolysis study of 1,2-bispyrazylethylene, 223
- triplet-state properties of *N,N*-dimethylaniline: laser flash photolysis study, 233

Harmol

- acid-base and tautomeric equilibria of harmol in the ground and first excited singlet states, 253

Heavy-atom effect

- mechanism of S₁ deactivation in alkanes: heavy-atom effect, 49

Hexafluorobenzene

- an investigation of transient absorptions and a streak camera study of the fluorescence of primary or secondary states of hexafluorobenzene, 165

Hydrogen bromide

- photo-oxidation of CF₂ClBr and competitive reactions of CF₂Cl radicals with O₂, Br₂, Cl₂ and HBr, 7

Intermediates

- investigation of a long-lived intermediate in the photo-oxidation of chlorocuprate(I) complexes, 211

Iodine chloride

- vacuum UV fluorescence excitation spectrum of ICl using synchrotron radiation, 149

Iodine bromide

- time-resolved study of the lowest optically accessible ion-pair state of IBr using synchrotron radiation, 1

Ion pairs

- time-resolved study of the lowest optically accessible ion-pair state of IBr using synchrotron radiation, 1

Ketones

- photochemical α cleavage of ketones as radiationless transitions, 315

Kinetics

- kinetics of photochemical rearrangements and spectral behaviour of pyrazolone derivatives in solution, 289

Liquid phase

- triplet exciplexes — have they been detected in the liquid phase?, 67

Luminescence

- photoluminescence of 2-(*o*-aminophenyl)benzimidazole, 333
- luminescence of porphyrins and metalloporphyrins IX: dimerization of meso-tetrakis(*N*-methyl-4-pyridyl)porphine, 97
- luminescence studies of physostigmine, rubreserine and adrenochrome, 345

Methanol

- the oxidizing products of the photolysis of water catalysed by the titanium(IV) complex formed from polymerized *n*-butyl-*o*-titanate and methanol, 57

Micelles

- micellar structure and micellar control of photochemical reactions, 75

MINDO/3 calculations

- photoacoustic measurements and MINDO/3 calculations of energy storage by short-lived species; the spiro[1,8-*a*]dihydroidolizine-betaine system, 297

Naphthaldazine

- photochemistry of 2,2'-dihydroxy-1-naphthaldazine, 131

Nitric oxide

- relative reactivity of Cl atoms with NO, NO₂ and HCCl₂F at room temperature and atmospheric pressure, 21

Nitrous oxidé

- relative reactivity of Cl atoms with NO, NO₂ and HCCl₂F at room temperature and atmospheric pressure, 21

Oxygen

- photo-oxidation of CF₂ClBr and competitive reactions of CF₂Cl radicals with O₂, Br₂, Cl₂ and HBr, 7
- temperature dependence of the collisional quenching of O₂(a¹Δ_g) and O₂(b¹Σ_g⁺) by SO₂, 29
- thermal-lensing measurements of O₂(a¹Δ_g): quantum yields of formation and lifetimes, 37

Peroxides

- mechanism for quenching of triplet excited sensitizers by diaryl peroxides, 239

Phenol

- spectral evidence for long-lived radical-electron pairs: photoionization of phenol in alcohols, 193

Phosphonium salts

- photochemistry of pyrenylmethyl-triphenylphosphonium salts and related compounds, 373

Photoacoustic measurements

- photoacoustic measurements and MINDO/3 calculations of energy storage by short-lived species; the spiro[1,8-*a*]dihydroidolizine-betaine system, 297

Photoanation

- effect of chelate ring size on the photoanation reaction of polypyridine ruthenium complexes, 199

Photochromism

- acid effect on photochromism of spiro-pyrans: a study by microsecond and nanosecond flash photolysis, 123
- the effect of visible and near-UV radiation on preheated cellulose: a photochromic phenomenon, 359

Photocyclization

- photocyclization reactions of *N*-substituted thiophthalimides, 387

Photocycloaddition

- the meta photocycloaddition of anisole and benzene to 2-methyl-1,3-dioxole, 381

Photoionization

- spectral evidence for long-lived radical-electron pairs: photoionization of phenol in alcohols, 193

Photolysis

- photolysis of dichlorobenzene vapour in the presence of ethane, 157
- the oxidizing products of the photolysis of water catalysed by the titanium(IV) complex formed from polymerized *n*-butyl-*o*-titanate and methanol, 57

Photo-oxidation

- investigation of a long-lived intermediate in the photo-oxidation of chlorocuprate(I) complexes, 211
- photo-oxidation of CF₂ClBr and competitive reactions of CF₂Cl radicals with O₂, Br₂, Cl₂ and HBr, 7

Photoreduction

- primary photoreduction of 1,8-dichloro-anthraquinone by triethylamine studied by laser spectroscopy, 143

- Phthalimides**
 photocyclization reactions of *N*-substituted thiophthalimides, 387
- Physostigmine**
 luminescence studies of physostigmine, rubreserine and adrenochrome, 345
- Poly(vinyl alcohol) films**
 thermal deactivation of the lowest singlet and triplet excited states of acridine dyes in poly(vinyl alcohol) films, 265
- Porphyrins**
 influence of axial ligation on the fluorescence of tetrakisphenylporphyrins, 105
 luminescence of porphyrins and metalloporphyrins IX: dimerization of meso-tetrakis(*N*-methyl-4-pyridyl)porphine, 97
- Pyrazolone**
 kinetics of photochemical rearrangements and spectral behaviour of pyrazolone derivatives in solution, 289
- Pyridine**
 effect of chelate ring size on the photoanation reaction of polypyridine ruthenium complexes, 199
- Quenching**
 mechanism for quenching of triplet excited sensitizers by diaryl peroxides, 239
 quenching of excimers by electron donors, 247
 temperature dependence of the collisional quenching of $O_2(a^1\Delta_g)$ and $O_2(b^1\Sigma_g^+)$ by SO_2 , 29
- Radiationless transitions**
 photochemical α cleavage of ketones as radiationless transitions, 315
- Radicals**
 photo-oxidation of CF_2ClBr and competitive reactions of CF_2Cl radicals with O_2 , Br_2 , Cl_2 and HBr , 7
 spectral evidence for long-lived radical-electron pairs: photoionization of phenol in alcohols, 193
- Rearrangements**
 kinetics of photochemical rearrangements and spectral behaviour of pyrazolone derivatives in solution, 289
- Rubreserine**
 luminescence studies of physostigmine, rubreserine and adrenochrome, 345
- Rupture**
 mechanism of the α rupture of the $C_{spiro}-O$ bond in indolinospiropyrans, 307
- Ruthenium**
 effect of chelate ring size on the photoanation reaction of polypyridine ruthenium complexes, 199
- S_1 deactivation**
 mechanism of S_1 deactivation in alkanes: heavy-atom effect, 49
- Sensitizers**
 mechanism for quenching of triplet excited sensitizers by diaryl peroxides, 239
- Spiro compounds**
 acid effect on photochromism of spiropyrans: a study by microsecond and nanosecond flash photolysis, 123
 mechanism of the α rupture of the $C_{spiro}-O$ bond in indolinospiropyrans, 307
 photoacoustic measurements and MINDO/3 calculations of energy storage by short-lived species; the spiro[1,8-*a*]dihydroindolizine-betaine system, 297
- Standards**
 β -carboline as a fluorescence standard, 113
- Streak camera**
 an investigation of transient absorptions and a streak camera study of the fluorescence of primary or secondary states of hexafluorobenzene, 165
- Sulphur dioxide**
 temperature dependence of the collisional quenching of $O_2(a^1\Delta_g)$ and $O_2(b^1\Sigma_g^+)$ by SO_2 , 29
- Synchrotron radiation**
 time-resolved study of the lowest optically accessible ion-pair state of IBr using synchrotron radiation, 1
 vacuum UV fluorescence excitation spectrum of ICl using synchrotron radiation, 149
- Temperature dependence**
 effect of temperature on the triplet states of methyl- and phenyl-substituted biphenyl molecules, 273

- temperature dependence of the collisional quenching of $O_2(a^1\Delta_g)$ and $O_2(b^1\Sigma_g^+)$ by SO_2 , 29
- Thermal deactivation**
 - thermal deactivation of the lowest singlet and triplet excited states of acridine dyes in poly(vinyl alcohol) films, 265
- Thermal lens**
 - thermal-lensing measurements of $O_2(a^1\Delta_g)$: quantum yields of formation and lifetimes, 37
- Thiophthalimides**
 - photocyclization reactions of *N*-substituted thiophthalimides, 387
- Titanium**
 - the oxidizing products of the photolysis of water catalysed by the titanium(IV) complex formed from polymerized *n*-butyl-*o*-titanate and methanol, 57
- Transient absorptions**
 - a critique of excitation models for partial saturation of transient absorbance, 179
- Triethylamine**
 - primary photoreduction of 1,8-dichloroanthraquinone by triethylamine studied by laser spectroscopy, 143
- Transient absorptions**
 - an investigation of transient absorptions and a streak camera study of the fluorescence of primary or secondary states of hexafluorobenzene, 165
- Triplet exciplexes**
 - triplet exciplexes — have they been detected in the liquid phase?, 67
- Water**
 - the oxidizing products of the photolysis of water catalysed by the titanium(IV) complex formed from polymerized *n*-butyl-*o*-titanate and methanol, 57