

Photochemistry within Zeolites
(work initiated at DuPont and continued at Tulane)

1. Modification of photochemical reactivity by zeolites: Norrish type I and type II reactions of benzoin derivatives.
D. R. Corbin, D. F. Eaton and V. Ramamurthy, *J. Am. Chem. Soc.*, *110*, 4848, **1988**.
2. Modification of photochemical reactivity by zeolites: Selective photorearrangement of α -alkylbenzoins to *p*-alkylbenzophenones in the cavities of Faujasites.
D. R. Corbin, D. F. Eaton and V. Ramamurthy, *J. Org. Chem.*, *53*, 5384, **1988**.
3. Modification of photochemical reactivity by zeolites: Consequences of rotational restriction on Norrish type II reaction of alkanophenones.
V. Ramamurthy, D. R. Corbin and D. F. Eaton, *J. Chem. Soc., Chem. Comm.*, 1213, **1989**.
4. Modification of photochemical reactivity by zeolites: Role of Cations in Controlling the behavior of radicals generated within faujasites.
V. Ramamurthy, D. R. Corbin, D. F. Eaton and N. J. Turro, *Tetrahedron Letters*, *30*, 5833, **1989**.
5. Modification of photochemical reactivity by zeolites: Cation enhanced α -cleavage of aryl alkyl ketones included in faujasites.
V. Ramamurthy, D. R. Corbin, N. J. Turro and Y. Sato, *Tetrahedron Letters*, *30*, 5829, **1989**.
6. Modification of photochemical reactivity by zeolites: Location of guests within Faujasites by heavy atom induced phosphorescence.
V. Ramamurthy, J. V. Caspar, D. R. Corbin and D. F. Eaton, *J. Photochem. Photobiol, A: Chemistry*, *50*, 157, **1989**.
7. The location of organic guests within X-type faujasite zeolites via external heavy atom induced phosphorescence.
J. V. Caspar, V. Ramamurthy and D. R. Corbin, *Coord. Chem. Rev.* *97*, 225, **1990**.
8. Modification of photochemical reactivity by zeolites: Heavy cation induced phosphorescence and entrapment of rotational conformers of *trans*-stilbene.
V. Ramamurthy, J. V. Caspar and D. R. Corbin, *Tetrahedron Letters*, *31*, 1097, **1990**.
9. Modification of photochemical reactivity by zeolites: Cation controlled photodimerization of acenaphthylene within faujasites.

- V. Ramamurthy, D. R. Corbin, C. V. Kumar and N. J. Turro, *Tetrahedron Letters*, **31**, 47, **1990**.
10. Modification of photochemical reactivity by zeolites: Arrested molecular rotation of polyenes by inclusion in zeolites.
V. Ramamurthy, J. V. Caspar, D. R. Corbin, D. F. Eaton, J. S. Kauffman and C. Dybowski, *J. Photochem. Photobiol., A: Chemistry*, **51**, 259, **1990**.
 11. Triplet state photophysics of naphthalene and α,ω -diphenylpolyenes included in heavy cation exchanged zeolites.
V. Ramamurthy, J. V. Caspar, D. R. Corbin, B. D. Schlyer and A. H. Maki, *J. Phys. Chem.*, **94**, 3391, **1990**.
 12. Photochemistry in zeolite cavities.
V. Ramamurthy in *Inclusion Phenomena and Molecular Recognition*, Ed., J. A. Atwood, Plenum Press, New York, 1990, p. 351.
 13. Norrish type I and type II reactions of ketones as photochemical probes of the interior of zeolites.
V. Ramamurthy, D. R. Corbin, D. F. Eaton, *J. Org. Chem.*, **55**, 5269, **1990**.
 14. A comparison between zeolite-solvent slurry and dry solid photolysis.
V. Ramamurthy, D. R. Corbin, N. J. Turro, Z. Zhang, M. A. Garcia-Garibay, *J. Org. Chem.*, **56**, 255, **1991**.
 15. Generation, entrapment and spectroscopic characterization of radical cations of α,ω -diphenylpolyenes within the channels of pentasil zeolites.
V. Ramamurthy, J. V. Caspar and D. R. Corbin, *J. Am. Chem. Soc.*, **113**, 594, **1991**.
 16. Preparation and spectroscopic characterization of polarons and bipolarons of thiophene oligomers within the channels of pentasil zeolites: The evolution of organic radical ions into conducting polymers.
J. V. Caspar, V. Ramamurthy and D. R. Corbin, *J. Am. Chem. Soc.*, **113**, 600, **1991**.
 17. Photochemistry of Macrocyclic Ketones within Zeolites: Competition between Norrish Type I and Type II Reactivity.
V. Ramamurthy, X. G. Lei, N. J. Turro, T. R. Lewis and J. R. Scheffer, *Tetrahedron Lett.*, **32**, 7675, **1991**.
 18. Photoprocesses of Organic Molecules Included in Zeolites
V. Ramamurthy in *Photochemistry in Organized and Confined Media*, Ed., V. Ramamurthy, VCH Publishers, New York, 1991, p. 429.

19. ^2H NMR Investigations of Ion–Molecule Interactions of Aromatics Included in Zeolites.
M. A. Hepp, V. Ramamurthy, D. R. Corbin and C. Dybowski, *J. Phys. Chem.*, **96**, 2629, **1992**.
20. Photophysical Studies of Organic Molecules Included within Zeolites.
V. Ramamurthy and J. V Caspar, *Mol. Cryst. Liq. Cryst.*, **211**, 211, **1992**.
21. A Study of Norrish Type II Reactions of Aryl Alkyl Ketones Included within Zeolites.
V. Ramamurthy, D. R. Corbin and L. J. Johnston, *J. Am. Chem. Soc.*, **114**, 3870, **1992**.
22. Photophysical Probes for Monitoring the Electric Field/Micropolarity within the Faujasite Supercage.
V. Ramamurthy, D. R. Sanderson and D. F. Eaton, *Photochem. Photobiol.*, **56**, 297, **1992**.
23. Heavy Atom Induced Phosphorescence of Aromatics and Olefins Included within Zeolites.
V. Ramamurthy, J. V Caspar, D. F. Eaton, E. W. Kuo and D. R. Corbin, *J. Am. Chem. Soc.*, **114**, 3882, **1992**.
24. Relative Size of the Host and the Guest Determine the Reaction Product Selectivity: Norrish Type II Reaction of Alkanones within Zeolite.
V. Ramamurthy and D. R. Sanderson, *Tetrahedron Letters*, **33**, 2757, **1992**.
25. Photochemistry and Photophysics within Zeolites.
V. Ramamurthy, *Chimia*, **46**, 359, **1992**.
26. Photochemistry and Photophysical Studies of Organic Molecules Included within Zeolites.
V. Ramamurthy, D. F. Eaton and J. V Caspar, *Acc. Chem. Res.*, **25**, 299, **1992**.
27. A High Resolution Synchrotron X-ray Powder Diffraction Study of *trans*-Stilbene in Zeolite ZSM-5.
J. B. Parise, J. Hriljac, D. E. Fox, D. R. Corbin and V. Ramamurthy, *J. Chem. Soc., Chem. Commun.*, **226**, **1993**.
28. Dependence of Charge Density and Electric Field within the Cages of X and Y zeolites on the Cation: Photophysical Probes.

- V. Ramamurthy and D. F. Eaton, *Proceedings of 9th International Zeolite Conference*, (1992, Montreal), Volume 1, Eds., R. von Ballmoos, J. B. Higgins and M. M. J. Treacy, Butterworth–Heinmann, Boston, 1993, pp. 587-594.
29. Control of Dye Assembly within Zeolites: Role of Water
V. Ramamurthy, D. R. Sanderson and D. F. Eaton, *J. Am. Chem. Soc.*, **115**, 10438, **1993**.
 30. Distribution of Organic Molecules within Zeolites as Revealed by Aromatic Photophysical Probes: Role of Water and other Co-adsorbents.
V. Ramamurthy, D. R. Sanderson and D. F. Eaton, *J. Phys. Chem.*, **97**, 13380, **1993**.
 31. Non-homogeneous Distribution of Organic Molecules within Zeolites
V. Ramamurthy, *Mol. Cryst. Liq. Cryst.*, **1994**, **240**, 53.
 32. Organic Guests within Zeolites: Xenon as a Photophysical Probe.
V. Ramamurthy, *J. Am. Chem. Soc.*, **1994**, **116**, 1345.
 33. Perspectives on Solid State Host-Guest Assemblies
V. Ramamurthy and D. F. Eaton, *Chem. Materials*, **1994**, **6**, 1128.
 34. An Ionic Heavy-Atom Effect in the Solid State Photochemistry of β,γ -Unsaturated Ketone
B. Borecka, A. Gudmundsdottir, G. Olovsson, V. Ramamurthy, J. R. Scheffer and J. Trotter
J. Am. Chem. Soc., **1994**, **116**, 10322.
 35. Photochemistry of Organic Molecules within Zeolites: Role of Cations,
V. Ramamurthy and N. J. Turro in *Inclusion Chemistry within Zeolites: Nanoscale Materials by Design*, Ed., N. Herron and D. R. Corbin, Kluwer Academic Press, Holland, **1995**, pp. 239-282.
 36. Excited State Chemistry of Organic Molecules Included within Zeolites
V. Ramamurthy in *Surface Photochemistry*, Ed., M. Anpo, John Wiley, Chichester, **1996**, pp.65-115.
 37. Asymmetric Induction in Photochemical Reactions Conducted in Zeolites and in the Crystalline State
M. Leibovitch, G. Olovsson, G. Sundarababu, V. Ramamurthy, J. R. Scheffer and J. Trotter,
J. Am. Chem. Soc., **1996**, **118**, 1219.

38. Structure of a zeolite ZSM-5 Bithiophene Complex as Determined by High Resolution Synchrotron X-Ray Powder Diffraction.
C. Eylem, J. A. Hriljac, V. Ramamurthy, D. R. Corbin and J. B. Parise, *Chem. Mater.*, **1996**, 8, 844.
39. Zeolites as Supramolecular Hosts for Photochemical Transformations
V. Ramamurthy and M. Garcia-Garibay in *Comprehensive Supramolecular Chemistry*, Vol. 7, Ed., T. Bein, Pergamon Press, Oxford, U.K., 1996, p 693.
40. Electron Transfer Reactions within Zeolites: Radical Cations from Benzonorbornadiene
K. Pitchumani, D. R. Corbin and V. Ramamurthy, *J. Am. Chem. Soc.*, **1996**, 118, 8152.
41. Zeolite as a host for chiral induction.
G. Sundarababu, M. Leibovitch, D. R. Corbin, J. R. Scheffer and V. Ramamurthy, *J. Chem. Soc. Chem. Comm.*, **1996**, 2159.
42. Triplet-Triplet Energy Transfer Between Organic Molecules Trapped in Zeolites.
K. Pitchumani, J. N. Gamlin, V. Ramamurthy and J. R. Scheffer, *J. Chem. Soc., Chem. Comm.*, **1996**, 2049.
43. Role of Water in Intrazeolite Photochemistry
Z. Zhang, N. J. Turro, L. Johnston and V. Ramamurthy, *Tetrahedron Letters*, **1996**, 37, 4861.
44. Cation-Guest Interaction Within Zeolites: Li⁺ Exchanged Zeolites Are Unique
K. Pitcumani and V. Ramamurthy, *Tetrahedron Letters*, **1996**, 37, 5297.
45. Electron Transfer Reactions Within Zeolites: Photooxidation of Stilbenes
X. Li and V. Ramamurthy, *Tetrahedron Letters*, **1996**, 37, 5235.
46. Remarkable Product Selectivity During Photo-Fries and Photo-Claisen Rearrangements within Zeolites
K. Pitchumani, M. Warriar and V. Ramamurthy, *J. Am. Chem. Soc.*, **1996**, 118, 9428.
47. Photo-Fries Reaction of Naphthyl Esters within Zeolites
K. Pitchumani, M. Warriar, C. Cui, R. G. Weiss and V. Ramamurthy, *Tetrahedron Letters*, **1996**, 37, 6251.

48. Selective Oxidation of Olefins within Organic Dye Cation Exchanged Zeolites
X. Li and V. Ramamurthy, *J. Am. Chem. Soc.*, **1996**, *118*, 10666.
49. An Exceptionally Stable Carbocation from Indene Generated and Trapped within Ca Y Zeolite.
K. Pitchumani and V. Ramamurthy, *J. Chem. Soc. Chem. Commun.*, **1996**, 2763.
50. Cation Radical and Carbocation Mediated Reactions within Ca Y Zeolite: 1-Phenyl 3,4-dihydronaphthalene
K. Pitchumani, P. H. Lakshminarasimhan, G. Turner, M. Bakker and V. Ramamurthy, *Tetrahedron Letters*, **1997**, *38*, 371.
51. Zeolite as a Reagent and as a Catalyst: Reduction and Isomerization of Alkenes by Ca Y.
K. Pitcumani, Abraham Joy, Nicolette Prevost and V. Ramamurthy, *J. Chem. Soc. Chem. Commun.*, **1997**, 127.
52. Generation, Entrapment and Reactivity of Long Lived Organic Carbocations and Radical Cations within a Supramoleculr assembly: Ca Y zeolite
K. Pitchumani, P. H. Lakshminarasimhan, N. Prevost, D. R. Corbin and V. Ramamurthy, *J. Chem. Soc. Chem. Commun.*, **1997**, 181.
53. Generation and Reactivity of Singlet Oxygen Within Zeolites: Remarkable Control of hydroperoxidation of alkenes
R. Robbins and V. Ramamurthy, *J. Chem. Soc. Chem. Commun.*, **1997**, 1071.
54. Generation of Stable and Persistent Carbocations From 4-Vinylanisole Within Zeolites
V. Jayathirtha Rao, N. Prevost, V. Ramamurthy, M. Kojima and L. Johnston, *J. Chem. Soc. Chem. Commun.*, **1997**, 2209.
55. Asymmetrically Modified Zeolite As a Medium For Enantioselective Photoreactions: Reactions From Spin Forbidden Excited States
Abraham Joy, Rebecca Robbins, Kasi Pitchumani and V. Ramamurthy, *Tetrahedron Letters*, **1997**, 8825.
56. Detection of Low Levels of Brønsted Acidity in Na⁺Y and Na⁺X Zeolites.
V. Jayathirtha Rao, Deborah L. Perlstein, Rebecca J. Robbins, P. H. Lakshminarasimhan, Hsein-Ming Kao, Clare P. Grey and V. Ramamurthy, *J. Chem. Soc. Chem. Commun.*, **1998**, 269.
57. Facial Selective Photoreduction of Steroids: Role of Zeolites.
V. Jayathirtha Rao, S. Uppili, D. R. Corbin, S. Schwarz, S. R. Lustig and V.

- Ramamurthy, *J. Am. Chem. Soc.*, **1998**, *120*, 2480.
58. Photoinduced Electron Transfer Reactions Within Zeolites: Detection of Radical Cations and Dimerization of Aryl alkenes.
L. Brancaloni, D. Brouismiche, V. Jayathirtha Rao, L. J. Johnston and V. Ramamurthy, *J. Am. Chem. Soc.*, **1998**, *120*, 4926.
 59. Activation Conditions Play a Key Role in the Activity of Zeolite CaY: NMR and Product Studies of Brønsted Acidity
H. M. Kao, C. P. Grey, K. Pitchumani, P. H. Lakshminarasimhan and V. Ramamurthy, *J. Phys. Chem.*, **1998**, *102*, 5627.
 60. Enantioselective Photoelectrocyclization within Zeolites: Tropolone methyl ether in Chirally Modified NaY.
A. Joy, J. R. Scheffer, D. R. Corbin and V. Ramamurthy, *J. Chem. Soc. Chem. Commun.*, **1998**, 1379.
 61. Novel Approaches Towards the Generation of Excited Triplets of Organic Guest Molecules within Zeolites.
K. Pitchumani, M. Warriar, J. R. Scheffer and V. Ramamurthy, *J. Chem. Soc. Chem. Commun.*, **1998**, 1197.
 62. Energy Transfer, Proton Transfer and Electron Transfer Reactions Within Zeolites (Feature article)
V. Ramamurthy, P. Lakshminarasimhan, C. P. Grey and L. J. Johnston, *J. Chem. Soc. Chem. Commun.*, **1998**, 2411-2424.
 63. Detection and Estimation of Brønsted Acidities in Alkali Metal Cation exchanged X and Y Zeolites.
K. J. Thomas and V. Ramamurthy, *Langmuir*, **1998**, *14*, 6687
 64. Studies on Chiral Induction within Zeolites: Photoelectrocyclization of Tropolone alkylethers.
A. Joy, D. R. Corbin and V. Ramamurthy in *Proceedings of 12th International Zeolite Conference*, M. M. J. Traacy, B. K. Marcus, B. E. Bisher and J. B. Higgins (Eds.), Materials Research Society: Warrendale, PA, **1999**, pp. 2095.
 65. Zeolite as a Medium for Photochemical Reactions
V. Ramamurthy, R. J. Robbins, K. J. Thomas and P. H. Lakshminarasimhan, in *'Organized Molecular Assemblies in the Solid State'*, J. K. Whitsell (ed.), John Wiley: Chichester, **1999**, pp. 63-140.

66. Utility of zeolitic medium in photo-Fries and photo-Claisen rearrangements.
K. Pitchumani, M. Warriar and V. Ramamurthy, *Res. Chem. Intermediates*, **1999**, *25*, 623.
67. Characterization of persistent intermediates generated upon inclusion of 1,1-diarylethylenes within CaY zeolite: Spectroscopy and Product Studies.
P. Lakshminarasimhan, K. J. Thomas, L. Brancalone, P. D. Wood, L. J. Johnston and V. Ramamurthy, *J. Phys. Chem., B*, **1999**, *103*, 9247.
68. Photo-Fries reactions of 1-naphthyl esters in cation exchanged zeolite Y and polyethylene media.
W. Gu, M. Warriar, V. Ramamurthy and R. G. Weiss, *J. Am. Chem. Soc.*, **1999**, *121*, 9467.
69. Zeolite as a spectroscopic matrix.
S. Uppili, P. Lakshminarasimhan and V. Ramamurthy, *IAPS Newsletter*, **1999**, *22*, 32.
70. Enforcing molecules to behave.
A. Joy, M. Warriar and V. Ramamurthy, *Spectrum*, **1999**, *12*, issue 3, 1.
71. Probing zeolites with organic molecules: Supercages of X and Y zeolites are superpolar.
S. Uppili, K. J. Thomas, E. Crompton and V. Ramamurthy, *Langmuir*, **2000**, *16*, 265.
72. Chiral photochemistry within zeolites.
A. Joy and V. Ramamurthy, *Chemistry: A European Journal*, **2000**, *6*, 1287.
73. Photochemistry of Tropolone ethers and 2,2-dimethyl-1-(2H)-naphthalenones within a Zeolite: Enhanced diastereoselectivity Via Confinement.
Abraham Joy, Sundararajan Uppili, Matthew R. Netherton John R. Scheffer and V. Ramamurthy, *J. Am. Chem. Soc.*, **2000**, *122*, 728.
74. Chirally Modified Zeolite as a Reaction Medium: Photochemistry of an Achiral Tropolone ether.
Abraham Joy, John R. Scheffer and V. Ramamurthy, *Org. Letters*, **2000**, *2*, 119.
75. Cation- π -interaction promoted aggregation of aromatic molecules and energy transfer within zeolites
K. J. Thomas, R. B. Sunoj, J. Chandrasekhar and V. Ramamurthy, *Langmuir*, **2000**, *16*, 4912.

76. Enantioselective Photoreduction of arylalkyl ketones via restricting the reaction to chirally modified zeolite cages.
J. Shailaja, K. J. Ponchot and V. Ramamurthy, *Org. Letters*, **2000**, *2*, 937.
77. Cation- π Interaction Controlled Selective Geometric Photoisomerization of Diphenylcyclopropane
P. Lakshminarasimhan, R. B. Sunoj, J. Chandrasekhar and V. Ramamurthy, *J. Am. Chem. Soc.*, **2000**, *122*, 4815.
78. Singlet Oxygen Mediated Oxidation of Olefins Within Zeolites: Selectivity and Complexities.
J. Shailaja, J. Sivaguru, R. J. Robbins, V. Ramamurthy, R. B. Sunoj and J. Chandrasekhar, *Tetrahedron*, **2000**, *56*, 6927.
79. Understanding the Influence of Active (Zeolite) and Passive (Polyethylene) Reaction Cages on Photo-Claisen Rearrangements of Aryl Benzyl Ethers.
Weiqiang Gu, Manoj Warriar, Brian Schoon, V. Ramamurthy, and Richard G. WEISS, *LANGMUIR*, **2000**, *16*, 6977.
80. Heavy Cation Effect on Intersystem Crossing Between Triplet and Singlet Phenylacyl and Benzyl Geminate Radical Pairs Within Zeolites
Manoj Warriar, N. J. Turro and V. Ramamurthy, *Tetrahedron Letters*, **2000**, *41*, 7163.
81. Heavy-Cation-Induced Phosphorescence of Alkanones and Azoalkanes In Zeolites As Hosts: Induced S_1 ($n\pi^*$) to T_1 ($n\pi^*$) Intersystem Crossing and S_0 to T_1 ($n\pi^*$) Absorption
Sundararajan Uppili, Vincenti Marti, Achim Nikolaus, Steffen Jockusch, Waldemar Adam, Paul S. Engel, Nicholas J. Turro and V. Ramamurthy, *J. Am. Chem. Soc.*, **2000**, *122*, 11025.
82. Wavelength Dependent Oxygen Mediated Electron Transfer Reactions Within M^+Y Zeolites: Photo oxidation And Reduction of 1,1-Diarylethylenes
P. Lakshminarasimhan, K. J. Thomas, L. J. Johnston and V. Ramamurthy, *Langmuir*, **2000**, *16*, 9360.
83. Enantio- and diastereo-differentiating *cis,trans*-photoisomerization of 2 β ,3 β -diphenylcyclopropane-1 α -carboxylic acid derivatives in organized media
Eugene Cheung, Kenneth C.W. Chong, Sivaguru Jayaraman, V. Ramamurthy, John R. Scheffer and James Trotter, *Organic Letters*, **2000**, *2*, 2801.
84. The Influence Of Chiral Auxiliaries Is Enhanced Within Zeolites

- Sivaguru Jayaraman, Sundararajan Uppili, Arunkumar Natarajan, Abraham Joy, Kenneth C. W. Chong, Mathew R. Netherton, Alla Zenova, J. R. Scheffer, and V. Ramamurthy, *Tetrahedron Letters*, **2000**, *41*, 8231.
85. Controlling Photochemical Reactions via Confinement: Zeolites
V. Ramamurthy, *J. Photochem. Photobiol. C*, **2000**, *1*, 145-166.
86. Controlling the Reactive State Through Cation Binding: Photochemistry of Enones within Zeolites
Sundararajan Uppili, Shinsuke Takagi, R. B. Sunoj, P. Lakshminarasimhan, J. Chandrasekhar and V. Ramamurthy, *Tetrahedron Letters*, **2001**, *42*, 2079.
87. Use of a Confined Space (Zeolite) in Enantio and Diastereoselective Photoreactions
J. Shailaja, J. Sivaguru, S. Uppili, A. Joy and V. Ramamurthy, *Microporous and Mesoporous Materials*, **2001**, *48*, 319.
88. Configuration Interaction and Density Functional Study of the Influence of Lithium Cation Complexation on Vertical and Adiabatic Excitation Energies of Enones.
R. B. Sunoj, P. Lakshminarasimhan, V. Ramamurthy and J. Chandrasekhar, *J. Comput. Chem.* **2001**, *22*, 1598.
89. Achieving Enantio and Diastereoselectivities in Photoreactions Through the Use of a Confined Space, J. Sivaguru, J. Shailaja, S. Uppili, K. Ponchot, A. Joy, N. Arunkumar and V. Ramamurthy, *Organic Solid State Reactions*, F. Toda (Ed.), Kluwer Academic Press, **2002**, pp. 159-188.
90. Use of Chirally Modified Zeolites and Crystals in Photochemical Asymmetric Synthesis
Kenneth C.W. Chong, Sivaguru Jayaraman, Tetsuya Shichi, Yasuharu Yoshimi, V. Ramamurthy, John R. Scheffer, *J. Am. Chem. Soc.*, **2002**, *124*, 2858.
91. Enhanced Enantio- and Diastereoselectivities via Confinement: Photorearrangement of 2,4-Cyclohexadienones Included in Zeolites
Sundararajan Uppili and V. Ramamurthy, *Organic Letters*, **2002**, *4*, 87.
92. Zeolite-coated quartz fibers as media for photochemical and photophysical studies
Ajit R. Pradhan, Sundararajan Uppili, J. Shailaja, J. Sivaguru and V. Ramamurthy, *J. Chem. Soc., Chem. Commun.*, **2002**, 596.
93. Confined Space and Cations Enhance the Power of a Chiral Auxiliary: Photochemistry of 1,2-Diphenylcyclopropane Derivatives
J. Sivaguru, John R. Scheffer, J. Chandrasekhar and V. Ramamurthy, *J. Chem. Soc., Chem. Commun.*, **2002**, 830.

94. Control of Enantioselectivity in the Photochemical Conversion of α -Oxoamides into β -Lactam Derivatives.
N. Arunkumar, K. Wang, V. Ramamurthy and J. R. Scheffer, *Organic Letters*, **2002**, *4*, 1443.
95. Cation Controlled Singlet Oxygen Mediated Oxidation of Olefins Within Zeolites
L. S. Kaanumalle, J. Shailaja, R. J. Robins and V. Ramamurthy, *J. Photochem. Photobiol A: Chemistry*, **2002**, *153*, 55-65.
96. Direct and Sensitized (Energy and Electron Transfer) Geometric Isomerization of Stilbene within Zeolites: A Comparison Between Solution and Zeolite as Reaction Media
P. H. Lakshminarasimhan, R. B. Sunoj, S. Karthikeyan, J. Chandrasekhar, L. J. Johnston, and V. Ramamurthy, *J. Photochem. Photobiol A: Chemistry*, **2002**, *153*, 41-53.
97. Enhanced Enantio- and Diastereoselectivity via Confinement and Cation Binding: Yang Photocyclization of 2-Benzoyladamantane Derivatives Within Zeolites
N. Arunkumar, Abraham Joy, Lakshmi S. Kaanumalle, John R. Scheffer and V. Ramamurthy, *J. Org. Chem.*, **2002**, *67*, 8339.
98. Reactive State Spin Dependent Diastereoselective Photoisomerization of *trans*, *trans*-Diphenylcyclopropane-1-Carboxylic Acid Derivatives Included in Zeolites
J. Sivaguru, T. Shichi and V. Ramamurthy, *Org. Lett*, **2002**, *4*, 4221.
99. Light Induced Geometric Isomerization of 1,2-Diphenylcyclopropanes Included Within Y Zeolites: Role of Cation-Guest Binding
L. S. Kaanumalle, J. Sivaguru, P. H. Lakshminarasimhan, R. B. Sunoj, J. Chandrasekhar and V. Ramamurthy, *J. Org. Chem.*, **2002**, *67*, 8711.
100. Cation- π Interaction As a Tool To Enhance the Power of a Chiral Auxiliary During Asymmetric Photoreactions within Zeolites
L. S. Kaanumalle, J. Sivaguru, N. Arunkumar, S. Karthikeyan, and V. Ramamurthy, *J. Chem. Soc. Chem. Comm.*, **2003**, 116.
101. Persistent Carbocations From 4,4'-Dimethylaminodiphenylethylenes Within CaY Zeolite: Intrazeolite-Water Controls the Structure of the Carbocation
S. Koodanjeri and V. Ramamurthy, *Tetrahedron Letters*, **2003**, *44*, 1615.
102. Alkali Ion Controlled Excited State Ordering of Acetophenones Included in Zeolites: Emission, Solid State NMR and Computational Studies

- J. Shailaja, P. H. Lakshminarasimhan, A. Pradhan, R. B. Sunoj, S. Jockusch, S. Karthikeyan, S. Uppili, J. Chandrasekhar, N. J. Turro and V. Ramamurthy, *J. Phys. Chem. A* **2003**, *107*, 3187.
103. Weak Interactions Between Organic Molecules and Alkali Metal Ions Present in Zeolites Help Manipulate the Excited State Behavior of Organic Molecules
V. Ramamurthy, *J. Photoscience*, **2003**, *10*, 127.
104. Organic Photochemistry within Zeolites: Selectivity Through Confinement, J. Shailaja, J. Sivaguru and V. Ramamurthy, in *Handbook of Zeolites and Microporous Materials*, S. Auerbach, K. Carrado and P. Dutta (eds.), Marcell Dekker: New York, **2003**, pp. 515-590.
105. Triplet Photochemistry within Zeolites Through Heavy Atom Effect, Sensitization and Light Atom Effect
K. Pitchumani, M. Warriar, L. S. Kaanumalle and V. Ramamurthy, *Tetrahedron*, **2003**, *59*, 5763.
106. Asymmetric Photoreactions Within Zeolites: Role of Confinement and Alkali Metal Ions
J. Sivaguru, A. Natarajan, L. S. Kaanumalle, J. Shailaja, S. Uppili, A. Joy and V. Ramamurthy, *Acc. Chem. Res.*, **2003**, *36*, 509-521.
107. Controlling chemistry with cations: photochemistry within zeolites
V. Ramamurthy, J. Shailaja, L. S. Kaanumalle, R. B. Sunoj, and J. Chandrasekhar, *J. Chem. Soc. Chem. Comm.*, (Feature Article), **2003**, 1987-1999.
108. Alkali Metal Ion Controlled Product Selectivity During Photorearrangements of 1-Naphthyl Phenyl Acylates and Dibenzyl Ketones Within Zeolites
M. Warriar, L. S. Kaanumalle, V. Ramamurthy, *Can. J. Chem.*, **2003**, *81*, 620-631.
109. Chiral Photochemistry Within Zeolites
V. Ramamurthy, J. Sivaguru, N. Arunkumar, L. S. Kaanumalle, S. Karthikeyan, J. Shailaja and A. Joy, in *Chiral Photochemistry*, Y. Inoue and V. Ramamurthy (Eds.), Marcell Dekker: New York, **2004**, pp. 563-631.
110. Enhanced Diastereoselectivity via Confinement: Photoisomerization of 2,3-Diphenylcyclopropane-1-carboxylic Acid Derivatives within Zeolites.
J. Sivaguru, R. B. Sunoj, T. Wada, Y. Origane, Y. Inoue and V. Ramamurthy, *J. Org. Chem.*, **2004**, *69*, 6533-6547.
111. Enhanced Diastereoselectivity via Confinement: Photoisomerization of 2,3-Diphenyl-1-benzoylcyclopropane Derivatives Within Zeolites

- J. Sivaguru, R. B. Sunoj, T. Wada, Y. Origane, Y. Inoue and V. Ramamurthy, *J. Org. Chem.*, **2004**, *69*, 5528-5536.
112. Role of Cations and Confinement in Asymmetric Photochemistry: Enantio and Diastereoselective Photocyclization of Tropolone Derivatives within Zeolites
A. Joy, L. S. Kaanumalle and V. Ramamurthy, *Org. Biomol. Chem.*, **2005**, *3*, 3045 - 3053.
113. Control of Chirality By Cations In Confined Spaces: Photooxidation of Enecarbamates Inside Zeolite Supercages.
J. Sivaguru, H. Saito, M. R Solomon, L. S Kaanumalle, T. Poon, S. Jockusch, W. Adam, V. Ramamurthy, Y. Inoue, and N. J. Turro, *Photochem. Photobiol.*, **2006**, *82*, 123-131.
114. Asymmetric Induction During Electron Transfer Mediated Photoreduction of Carbonyl Compounds: Role of Zeolites.
J. Shailaja, L. S. Kaanumalle, K. Sivasubramanian, A. Natarajan, K. J. Ponchot, A. Pradhan and V. Ramamurthy, *Org. Biomol. Chem.*, **2006**, *4*, 1561-1571.
116. A comparison between zeolites and crystalline state as reaction media: Photocyclization α -mesitylacetophenones to 2-indanols
A. Natarajan, J. T. Mague and V. Ramamurthy, *Mol. Cryst. Liq. Cryst.* **2006**, *456*, 71-83.
117. Bioinspired-Green-Supramolecular-Nano Photochemistry: Photoproducts Control Through Weak Intermolecular Forces
L. S. Kaanumalle, A. Natarajan, K. Sivasubramanian, R. Kaliappan, M. Pattabiraman and V. Ramamurthy, *Spectrum*, **2006**, *19*, 16-21.
118. Asymmetric induction during photocyclization of chiral and achiral α -oxoamides within achiral zeolites
A. Natarajan and V. Ramamurthy, *Org. Biomol. Chem.*, **2006**, *4*, 4533-4542.
119. Value of Zeolites In Asymmetric Induction During Photocyclization of Pyridones, Cyclohexadienones and Naphthalenones
K. Sivasubramanian, L. S. Kaanumalle, S. Uppili and V. Ramamurthy, *Org. Biomol. Chem.*, **2007**, *5*, 1569 - 1576.
120. Zeolite matrix assisted decomposition of singlet oxygen sensitizers during photooxidation
J. Shailaja, J. Sivaguru and V. Ramamurthy, *J. Photochemistry and Photobiology A: Chemistry*, **2016**, *331*, 197-205. (Special Issue Dedicated to Yoshihisa Inoue)

