Publications – J. Narasimha Moorthy

ACS		Wiley		RSC		Elsevier	
J. Am. Chem. Soc.	13	*Angew. Chem.*	02	*Chem. Sci.*	01	*Tet. Lett*	11
J. Org. Chem.	27	*Chem. Eur. J.*	11	*J. Mater. Chem.*	05	*Tetrahedron*	06
Cryst. Growth Des.	13	*Eur. J. Org. Chem.*	06	*Chem. Commun.*	02	*Org. Elect.*	01
Org. Lett.	05			*New J. Chem.*	05		
ACS Appl. Mater.	03			*PCCP*	03	Cell Press	
J. Phys. Chem. A	02			*Org. Biomol.*	03	Chem	01
Inorg. Chem.	03						

180. Copper Complexes of Thiazolo [5, 4-D] Thiazole-Based Porous Polymers: Efficient Catalytic Synthesis Of 2-Arylquinolines And 2-Arylbenzothiazoles
Sahoo, A. K.; Yadav, C.; Moorthy, J. N.
Appl. Catal. A: General **2024**, *671*, 119557

179. *De Novo* Synthesis of Acridone-Based Zn-Metal–Organic Framework (Zn-MOF) as a Photocatalyst: Application for Visible Light-Mediated Oxidation of Sulfides and Enaminones
Tamuly, P.; Moorthy, J. N.
ACS Appl. Mater. Interfaces **2024**, ASAP.

178. Porous Organic Polymer with Free Carboxylic Acids (Carboxy-POP) for Heterogeneous Catalytic One-Pot Synthesis of Xanthenes and Acridines
Karn, A..; Yadav, C.; Sahoo, A. K.; Moorthy, J. N.
ChemCatChem **2023**, *15*, e202300727

177. Catalytic Oxidations with ortho-Substituted Modified IBXs
Parida, K. N.; Moorthy, J. N.
Synlett **2023**, *34*, 495.

176. Dioxygen Concentration-Dependent Selective Hydroxysulfonylation of Olefins By Rose Bengal-Sensitized Photocatalysis
Yadav, N.; Payra,S.; Tamuly, P.; Moorthy, J. N.
Org. Biomol. Chem. **2023**, *21*, 7994.

175. Synthesis and Excited-State Properties of Donor-Acceptor Azahelical Coumarins
Jana, K.; Sarkar, D.; Jaiswal, P.; Moorthy, J. N.
J. Org. Chem. 2023, 88, 6611.

174. Visible-Light Decomposition of Acyl Peroxides using Isocyanides: Synthesis of Heteroarenes by Radical Cascade Cyclization
Yadav, N.; Bhatta, S. R.; Moorthy, J. N.
J. Org. Chem. **2023**, 88, 5431.

173. $\boldsymbol{\lambda}^3$ - and $\boldsymbol{\lambda}^5$-Iodanes: Substituent Effects and Pseudorotation/Hypervalent Twisting
Parida, K.; Moorthy, J. N.
Chem. Eur. J. **2023**, 29, e202203997

172. Influence of Triptycene Annulation on the Photochromism of Diphenylnaphthopyrans: Entropic Control of Thermal Reversion
Jana, K., Moorthy, J. N.
Chem. Eur. J. **2023**, 29, e202202757.

171. An Expedient Iodine-Catalyzed Synthesis of Unsymmetrical Thiosulfonates by Sulfonylation of Thiols using Sulfonyl hydrazides in the Presence of Oxone
Yadav, N.; Payra, S.; Moorthy, J. N.
Asian J. Org. Chem. **2022**, *11*, e202200554

170. Bottom-Up De Novo Development of Porous Organic Polymers with Enone Functionalities as Supports for Pd and Cu Nanoparticles in Catalytic Tandem Synthesis
Yadav, C.; Maka, V. K.; Payra, S.; Moorthy, J. N.
ACS Appl. Nano Mater. **2022**, *05*, 14296.

169. Ionic Porous Organic Polymer (IPOP) Based on Twisted Biphenyl Scaffold: Green and Efficient Heterogeneous Catalytic Synthesis of **β**-Arylthioketones and Biscoumarins
Yadav, C.; Payra, S.; Moorthy, J. N.
J. Catal. **2022**, *02*, 3084.

168. Catalytic Oxidations with ortho-Substituted Modified IBXs
Parida, K. N.; Moorthy, J. N.
Synlett, **2022**, 23, DOI: 10.1055/a-1813-7319

167. Zwitterionic Luminescent 2D Metal–Organic Framework Nanosheets (LMONs): Selective Turn-On Fluorescence Sensing of Dihydrogen Phosphate
Jindal, S.; Moorthy, J. N.
Inorg. Chem. **2022**, *61*, 3942-3950

166. Metal–Organic Nanosheets (MONs): Exfoliation by Mechanical Grinding and Iodine Capture
Tamuly, P.; Sama, F.; Moorthy, J. N.
Adv. Mater. Interfaces, **2022**, 2200337

165. Homoconjugation in triptycenes: an inquiry through photochromism
Jana, K.; Moorthy, J. N.
New J. Chem. **2022**, *46*, 1416.

164. Solvent-mediated switching between oxidative addition and addition–oxidation: access to **β**-hydroxysulfides and **β**-arylsulfones by the addition of thiols to olefins in the presence of Oxone
Payra, S.; Yadav, N.; Moorthy, J. N.
New J. Chem. **2022**, *46*, 582.

163. Contrasting Photochromic and Acidochromic Behaviors of Pyridyl-and Pyrimidylethynylated Mono-and Bis-Benzopyrans
Mukhopadhyay, A.; Jindal, S.; Maka, V.K.; Moorthy, J. N.
ACS Omega **2021**, *06*, 21113.

162. Anthracene-Bisimidazole Tetraacid Linker-Based Metal–Organic Nanosheets for Turn-On Fluorescence Sensing of Nerve Agent Mimics
Jindal, S.; Maka, V.K.; Anjum, G.; Moorthy, J. N.
ACS Applied Nano Materials **2021**, *04*, 449.

160. De Novo Access to SO_3H-Grafted Porous Organic Polymers (POPs@H): Synthesis of Dibenzopyrans and Triazoles by Heterogeneous Catalytic Cyclocondensations
Yadav, C.; Maka, V. K.; Payra, S.; Moorthy, J. N.
ACS Appl Poly. Mater. **2021**, *02*, 3084.

159. Temperature-Dependent Emission and Turn-Off Fluorescence Sensing of Hazardous "Quat" Herbicides in Water by a Zn-MOF Based on a Semi-Rigid Dibenzochrysene Tetraacetic Acid Linker
Mukhopadhyay, A.; Jindal, S.; Savitha, G.; Moorthy, J. N.
Inorg. Chem. **2020**, *59*, 6202..

158. Control of In-MOF topologies and tuning of porosity through ligand structure, functionality and interpenetration: Selective cationic dye exchange
Maka, V. K.; Tamuly, P.; Jindal, S.; Moorthy, J. N.
App. Mater. Today **2020**, *19*, 100613.

157. Multifunctional Porous Organic Polymers (POPs): Selective Hydrogen Adsorption, Stabilization of Pd(0) Nanoparticles, Catalytic Reductions and Cross-Coupling Reactions
Yadav, C.; Maka, V. K.; Payra, S.; Moorthy, J. N.
J. Catal. **2020**, *384*, 61.

156. One-Pot Synthesis of 4-Carboalkoxy-Substituted Benzo[*h*]coumarins from **α**- and **β**-Naphthols and Their Excited-State Properties
Chandra, A.; Jana, K.; Moorthy, J. N.
ACS Omega, **2020**, *05*, 207.

155. Coumarin-Annelated Regioisomeric Heptahelicenes: Influence of Helicity on Excited-State Properties and Chiroptical Properties
Mukhopadhyay, A.; Jana, K.; Hossen, T.; Sahu, K.; Moorthy, J. N.
J. Org. Chem. 2**019**, *84*, 10659

154. Facile synthesis of isatins by direct oxidation of indoles and 3-iodoindoles using NIS/IBX
Chandra, A.; Yadav, N. R.; Moorthy, J. N.
Tetrahedron, **2019,** *75*, 2169.

153. Modulation of Excited-State Proton Transfer Dynamics Inside the Nanocavity of Microheterogeneous Systems: Microenvironment-Sensitive Förster Energy Transfer to Riboflavin
Dey, N.; Biswakarma, D.; Bajpai, A.; Moorthy, J. N.; Bhattacharya, S.
ChemPhysChem. **2019**, 10.1002/cphc.201801085

152. Redox-Reversible 2D Metal-Organic Framework Nanosheets (MONs) Based on Hydroquinone/Quinone Couple
Maka, V.; Mukhopadhyay, A.; Jindal, S.; Moorthy, J. N.
Chem. Eur. J. **2019**, *25*, 3835.

151. Fluorescent 2D Metal-Organic Framework Nanosheets (MONs): Design, Synthesis and Sensing of Explosive Nitroaromatic Compounds (NACs)
Maka, V.; Mukhopadhyay, A.; Savitha, G.; Moorthy, J. N.
Nanoscale **2018**, *10*, 22389.

150. Influence of silyloxy substitution on the photochromic properties of diarylbenzo- and naphthopyrans
Mukhopadhyay, A.; Maka, V.; Moorthy, J. N.
J. Chem. Sci. **2018**, *130*, 140

149. Small Molecular Hole-Transporting Materials (HTMs) in Organic Light-Emitting Diodes (OLEDs): Structural Diversity and Classification
Jhulki, S.; Moorthy, J. N.
J. Mater. Chem. C **2018**, *06*, 8280.

148. Metal-Mediated Self-Assembly of a *Twisted* Biphenyl-Tetraacid Linker with Semi-Rigid Core and Peripheral Flexibility: Concomitant Formation of Compositionally-Distinct MOFs
Seth, S.; Savitha, G.; Moorthy, J. N.
Cryst. Growth Des. **2018**, *18*, 2129.

147. Photoresponsive 2D Metal-Organic Nanosheets (MONs) by Top-Down Exfoliation of De Novo-Synthesized Layered Metal-Organic Materials (MOMs)
Mukhopadhyay, A.; Maka, V.; Savitha, G.; **Moorthy, J. N.**
Chem. (Cell Press) **2018**, *04*, 1059.

146. Anionic Merocyanine Dyes Based on Thiazol-2-Hydrazides: Reverse Solvatochromism, Preferential Solvation and Multiparametric Approaches to Spectral Shifts
Mukhopadhyay, A.; Mandal, K.; **Moorthy, J. N.**
Phys. Chem. Chem. Phys. **2018**, *20*, 4149.

145. A Nitrogen-Free Bifunctional Bianthryl Leads to White Light Emission in Bilayer and Multilayer OLED Devices
Jhulki, A.; Seth, S.; Rather, S. A.; Ghosh, A.; Chow, T. J.; Moorthy, J. N.
ACS Omega, **2018**, *03*, 1416.

144. Fluorescence quenching of sterically-graded pyrene molecules by *N,N*-dialkylanilines. Exciplexes or locally excited states?
Bertocchi, M. J.; Zhang, Z-F.; Bajpai, A.; Moorthy, J. N.; Weiss, R. G.
J. Photochem. Photobiol. A. **2018**, 355, 467.

143. Influence of Cations on the Fluorescence Quenching of an Ionic, Sterically-Congested Pyrenyl Moiety by Iodide in Water
Bertocchi, M; Lupicki, A; Bajpai, A.; Moorthy, J. N.; Weiss, R. G.
J. Phys. Chem. A. **2017**, *121*, 7588.

142. Carbo[5]helicene versus planarphenanthrene as a scaffold for organic materials in OLEDs: electroluminescence of anthracene-functionalized emissive materials
Jhulki, S.; Mishra, A. K.; Chow, T. J.; Moorthy, J. N.
New. J. Chem. **2017**, *41*, 14730.

141. Helicity-Dependent Regiodifferentiation in the Excited-State Quenching and Chiroptical Properties of Inward/Outward Helical Coumarins
Mukhopadhyay, A.; Hossen, T.; Ghosh, I.; Koner, A. L.; Nau, W. M.; Sahu, K.; **Moorthy, J. N.**
Chem. Eur. J. **2017**, *23*, 14797.

140. A New MediaChrom (Fluorosolvatochromic + Acidochromic) Based on Bipolar Donor-Acceptor *Conjoined* Carbazolo-Phenazine
Mukhopadhyay, A.; Mishra, A. K.; Jana, K.; Moorthy, J. N.
J. Photochem. Photobiol. A. **2017**, *347*, 199.

139. One-pot synthesis of α-bromo- and α-azidoketones from olefins using catalytic oxidation with in situ-generated modified IBX as a key reaction
Chandra, A.; Parida, K. N.; **Moorthy, J. N.**
Tetrahedron, **2017**, *73*, 5827.

138. Tri- and tetraarylanthracenes with novel **λ**, **χ** and **ψ** topologies as blue-emissive as well as fluorescent host materials in organic light-emitting diodes (OLEDs)
Jhulki, S.; Bajpai, A.; Nagarajaiah, H.; Chow, T. J.; **Moorthy, J. N.**
New J. Chem. **2017**, 41, 4510.

137. Robust MOFs of 'tsg' Topology Based on *Trigonal Prismatic* Organic and Metal Cluster SBUs: Single Crystal-to-Single Crystal Postsynthetic Metal Exchange and Selective CO_2 Capture
Chandrasekhar, P.; Savitha, G.; **Moorthy, J. N.**
Chem. Eur. J. **2017**, 23, 7297.

136. Mechanochemical catalytic oxidations in the solid state with in situ-generated modified IBX from 3,5-di-tert-butyl-2-iodobenzoic acid (DTB-IA)/Oxone
Mishra, A. K.; Moorthy, J. N.
Org. Chem. Front. **2017**, *4*, 343.

135. One-pot multistep synthesis of bipolar carbazolo-phenazines: Hydrogen bond control of Diels-Alder cycloaddition and application for fluoride sensing
Mishra, AK.; Mukhopadhyay, **Moorthy, J. N.**
Tetrahedron, **2017**, *73*, 2210.

134. Remarkable influence of 'phane effect' on the excited-state properties of cofacially oriented coumarins
Mukhopadhyay, Maka, V.; **Moorthy, J. N.**
Phys. Chem. Chem. Phys. **2017,** *19***,** 4758.

133. New Insights into an Old Problem. Tertiary Aliphatic Amine Quenchers of Fluorescence from Sterically-Shielded Pyrenyl Molecules
Bertocchi, M. J.; Bajpai, A.; Moorthy, J. N.; Weiss, R. G.
J. Phys. Chem. A. **2017**, 121, 458.

132. Concomitant Structural Isomerism in MOFs Based on a Semi-Rigid Tritopic Triacid Linker: Kinetic and Thermodynamic Considerations in Solvent-Mediated Framework Metamorphosis
Chandrasekhar, P.; Bajpai, A.; Savitha, G.; **Moorthy, J. N.**
Eur. J. Inorg. Chem. **2017**, 1163.

131. Hydrogen-Bonded 2D Metal-Organic Frameworks Based on Triptycene Core: Exfoliation-Induced Luminescence Properties and Selective CO_2 Capture
Chandrasekhar, P.; Mukhopadhyay, A.; Savitha, G.; **Moorthy, J. N.**
J. Mater. Chem. A. **2017**, 5, 5402.

130. Phenomenon to Functions: Photochromism of Diarylpyrans, Spectrokinetic Properties and Functional Materials
Mukhopadhyay, A.; Moorthy, J. N.
Photochem. Photobiol. Rev. C. **2016**, *29*, 73.

129 Biginelli Reaction: An Overview
Nagarajaiah, H.; Mukhopadhyay, A.; Moorthy, J. N.
Tetrahedron Lett. Digest. **2016**, 57, 5135.

128. IBX-Initiated One-Pot Synthesis of 4-Arylthionaphtho-1,2-quinones, 4-Arylthio-1,2-diacetoxynaphthalenes and 5-Arylthio-/5-aminobenzo[*a*]phenazines
Mishra, A. K.; **Moorthy, J. N.**
J. Org. Chem. **2016**, *81*, 6472.

127. Deep Blue-Emissive Bifunctional (Hole-Transporting + Emissive) Materials with CIEy ~ 0.06 Based on 'U'-Shaped Phenanthrene Scaffold for Application in Organic Light-Emitting Diodes
Jhulki, S.; Mishra, A. K.; Chow, T. J.; Moorthy, J. N.
J. Mater. Chem. C. **2016**, *4*, 9310.

126. Fluoride Triggers Ring-Opening of Diarylpyrans to Highly Colored Merocyanine Dyes to Enable Colorimetric Naked-Eye Sensing in Sub-ppm Levels
Mukhopadhyay, A.; Maka, V. A.; Moorthy. J. N.
J. Org. Chem. **2016**, *81*, 7741.

125. Mechanochemical Solid-State Synthesis of 2-Aminothiazoles, Quinoxalines and Bezoylbenzofurans from Ketones by One-Pot Sequential Acid- and Base-Mediated Reactions
Nagarajaiah, H.; Mishra, A. K.; Moorthy, J. N.
Org. Biomol. Chem. **2016**, *14*, 4129.

124. Benzophenone-Imbedded Benzoyltriptycene with High Triplet Energy for Application as a Universal Host Material in Phosphorescent Organic Light-Emitting Diodes (PhOLEDs)
Jhulki, S.; Chow, T. J.; Moorthy, J. N.
New J. Chem. **2016**, *40*, 6854.

123. Helicity as a Design Element in the Creation of Organic Materials for OLEDs: Synthesis and Diverse Applications of Carbo- and Aza[5]helical Diamines
Jhulki, S.; Ghosh, A.; Chow, T. J.; **Moorthy, J. N.**
Chem. Eur. J. **2016**, *22*, 9375.

122. Oxidation of Thiols to Sulphonic Acids with Oxone®/$NaHCO_3$ Reagent System
Parida, K. N.; Chandra, A.; **Moorthy, J. N.**
ChemistrySelect. **2016**, *01*, 490.

121. CO_2 Capture and Luminescence Properties of Diverse Metal-Organic Materials Based on Twisted 9,9'-Bianthryl-Dicarboxylic Acid
Seth, S.; Savitha, G Jhulki, S.; **Moorthy, J. N.**
Cryst. Growth Des. **2016**, *16*, 2024.

120. Hole-Transporting Materials Based on Twisted Bimesitylenes for Stable Perovskite Solar Cells with High Efficiency
Lin, Y-D.; Ke, B-Y.; Lee,K-M.; Chang,S. H.; Wang, K-H.; Huang, SH.; Wu,C-G.; Chou, P-T.; Jhulki, S.; **Moorthy, J. N.**; Chang, Y. J.; Liau, K-L.; Chung, H-C.; Liu, C. Y.; Sun, S. S.; Chow, T. J.
ChemSusChem. **2016**, *9*, 274.

119. Remarkably Selective and Enantiodifferentiating Sensing of Histidine by a Fluorescent Homochiral Zn-MOF Based on Pyrene-tetralactic Acid
Chandrasekhar, P.; Mukhopadhyay, A.; Savitha, G.; **Moorthy, J. N.**
Chem. Sci. **2016**, *07*, 3085.

118. Benzophenones as Generic Host Materials for Phosphorescent Organic Light-Emitting Diodes (PhOLEDs)
Jhulki, S.; Ghosh, A.; Chow, T. J.; **Moorthy, J. N.**
ACS Appl Materials & Interfaces, **2016**, *8*, 1527.

117. Remarkable influence of phenyl/arylethynylation on the photochromism of diarylbenzopyrans (chromenes)
Mukhopadhyay, A.; Vijay Kumar Maka, V. A.; and Moorthy, J. N.
Eur. J. Org. Chem. **2016**, 274.

116. Twisted Biaryl-Amines as Novel Host Materials for Green-Emissive Phosphorescent Organic Light-Emitting Diodes (PhOLEDs)
Jhulki, S.; Ghosh, A.; Chow, T. J.; Moorthy, J. N.
RSC Adv. **2015**, *5*, 101169.

115. Carbon Dioxide Capture by a Metal-Organic Framework with Nitrogen-Rich Channels Based on Rationally Designed Triazole-Functionalized Tetraacid Organic Linker
Seth, S.; Savitha, G.; **Moorthy, J. N.**
Inorg. Chem. **2015**, *54*, 6829.

114. Isomorphous Three-component Crystals (Pseudopolymorphs of Binary Cocrystals) Based on Lattice Inclusion of Guests with a Sterically-Rigidified Tetraarylpyrene Host
Moorthy, J. N.; Natarajan, P.; Krishna, M. S.; Nagarajaiah, H.; Venugopalan, P.
*CrystEngComm.***2015**, *17*, 5307.

113. A Fluorescent Paramagnetic Mn-MOF Based on Semi-Rigid Pyrene-Tetracarboxylic Acid: Sensing of Solvent Polarity and Explosive Nitroaromatics
Bajpai, A.; Krishna, S. M.; Mukhopadhyay, A.; Savitha, G.; **Moorthy, J.** N.
IUCrJ. **2015**, *2*, 552.

112. Diverse Isostructural Metal-Organic Frameworks by Promiscuous Single Crystal-to-Single Crystal Postsynthetic Metal Node Metathesis: Anionic-to-Cationic Framework Conversion, Luminescent MOFs and Organic Dye Separation by Cation/Anion Exchange
Seth, S.; Savitha, G.; **Moorthy, J. N.**
J. Mater. Chem. A. **2015**, *03*, 22915.

111. Synthesis of o-Carboxyarylacrylic Acids by Room Temperature Oxidative Cleavage of Hydroxynaphthalenes and Higher Aromatics with Oxone
Parida, K. N.; **Moorthy, J. N.**
J. Org. Chem. **2015**, *80*, 8354.

110. Organic amorphous hole-transporting materials based on Troger's Base: alternatives to NPB

Neogi, I.; Jhulki, S.; Rawat, M.; R. S. Anand, R. S.; Chow, T. J. Moorthy, J. N.
RSC Adv. **2015**, *5*, 26806.

109. Tetraarylbiphenyl as a New Lattice Inclusion Host by Structure Reductionism: Shape and Size Complementarity Based on Torsional Flexibility
Neogi, I.; Bajpai, A.; Savitha, G.; Moorthy, J. N.
Cryst. Growth Des. **2015**, *15*, 2129.

108. Single Crystal-to-Single Crystal Site-Selective Postsynthetic Metal Exchange in a Zn-MOF Based on Semi-Rigid Tricarboxylic Acid and Access to Bimetallic MOFs
Bajpai, A.; Chandrasekhar, P.; Govardhan, S.; Banerjee, R.; **Moorthy, J.** N.
Chem. Eur. J. **2015,** *21*, 2759.

107. Photochromism of Acetyl-Cyclophanochromene: Intriguing Stabilization of Photogenerated Colored *o*-Quinonoid Intermediates
Mandal, S.; Mukhopadhyay, A., Moorthy, J. N.
Eur. J. Org. Chem. **2015**, 1403.

106. Amorphous Host Materials Based on Troger's Base Scaffold for Application in Phosphorescent Organic Light-Emitting Diodes
Neogi, I.; Jhulki, S.; Ghosh, A.; Chow, T. J. **Moorthy, J. N.**
ACS Appl Materials & Interfaces, **2015**, *7*, 3298.

105. Trihaloisocyanuric Acids as Highly Atom-Economic and Innocuous Reagents for Solvent-Free Halogenation of Aromatics and Carbonyl Compounds
Mishra, A. K.; Nagarajaiah, H.; **Moorthy, J. N.**
Eur. J. Org. Chem. **2015,** 2733.

104. Porous Coordination Polymers of Diverse Topologies Based on D_{2d}-Symmetric *Twisted* Tetrapyridylbiaryl: Application in Nucleophile Catalysis of Acylation of Phenols
Seth, S.; Venugopalan, P.; Moorthy, J. N
Chem. Eur. J. **2015,** *21*, 2241.

103. Oxidative Cleavage of Olefins by In Situ–Generated Catalytic 3,4,5,6-Tetramethyl-2-iodoxybenzoic Acid/Oxone
Moorthy, J. N., Parida, K. N.
J. Org. Chem. **2014,** *79,* 11431.

102. Bifunctional Organic Materials for OLEDs Based on Tröger's Base: Subtle Structural Changes and Significant Differences in Electroluminescence
Neogi, I.; Jhulki, S.; Ghosh, A.; Chow, T. J. **Moorthy, J. N.**
Org. Electron. **2014,** *15*, 3766.

101. Excited-state properties of fluorenones: influence of substituents, solvent and macrocyclic encapsulation
Ghosh, I.; Mukhopadhyay, A.; Koner, A. L.; Samanta, S.; Nau, W. M.; Moorthy, J. N.
Phys. Chem. Chem. Phys. **2014**, *16*, 16436.

100. Guest-Responsive Structural Adaptation of a Rationally-Designed Molecular Tweezer Based on Tröger's Base
Neogi, I.; Bajpai, A.; Moorthy, J. N.
J. Chem. Sci. **2014**, (Invited Article), *126*, 1323.

99. Self-Assembly of Sterically-Rigidified 3-Connecting Benzenetribenzoic Acid into (6,3) and (3,3) Nets and Stabilization of Water Helical Conduit in the Crystal Lattice
Bajpai, A.; Venugopalan, P.; Moorthy, J. N.
CrystEngComm (Invited Article) **2014**, *16*, 4853.

98. Engineering of Lattice Inclusion Based on Dimer Synthon-Mediated Hierarchical Self-Assemblyof Carboxylic Acids
Bajpai, A.; Krishna, M. S.; Moorthy, J. N.
J. Ind. Insti. Sci. (Invited Article) **2014**, *94*, 25.

97. Oxidation Cascade with Oxone: Cleavage of Olefins to Carboxylic Acids
Parida, K. N.; Moorthy, J. N.
Tetrahedron, **2014**, *70*, 2203.

96. Facile Organocatalytic Domino Oxidation of Diols to Lactones by In Situ-Generated TetMe-IBX
Jhulki, S.; Seth, S.; Mondal, M.; Moorthy, J. N.
Tetrahedron, **2014**, *70*, 3079.

95. Self-Assembly of Conformationally Rigid Dialcohols (Bis-Benzocyclobutenols): Supramolecular Cyclophanes and Arrays
Bajpai, A.; Venkatakrishnan, P.; Mandal, S, Samanta, S.; Venugopalan, P.; Moorthy, J. N.
Cryst. Growth & Des. **2013**, *13*, 4714.

94. Self-Assembly of Rigid 3-Connecting Mesitylenetribenzoic Acid: Multifarious Supramolecular Synthons and Solvent-Induced Supramolecular Isomerism
Bajpai, A.; Venugopalan, P.; **Moorthy, J. N.**
Cryst. Growth & Des. **2013**, *13*, 4721**.**

93. Helicity as a *Steric* Force: Stabilization and Helicity-Dependent Reversion of Colored *o*-Quinonoid Intermediates of Helical Chromenes
Moorthy, J. N.; Mandal, S.; Mukhopadhyay, A.; Samanta, S.
J. Am. Chem. Soc. **2013**, *135*, 6872.

92. Catalytic and Chemoselective Oxidation of Activated Alcohols and Direct Conversion of Diols to Lactones with In Situ-Generated Bis-IBX Catalyst.
Seth, S.; Jhulki, S.; **Moorthy, J. N.**
Eur. J. Org. Chem. **2013**, 2445.

91. Photochromism of novel chromenes constrained to be part of [2.2]paracyclophane: remarkable 'phane' effects on the colored *o*-quinonoid intermediates
Moorthy, J. N.; Mandal, S.; Kumar, A.
New J. Chem. **2013**, *37*, 82.

90. Oxidation of benzyl alcohols, benzyl halides, and alkylbenzenes with oxone
Parida, K. N.; Jhulki, S.; Mandal, S.; **Moorthy, J. N.**
Tetrahedron **2012**, *68*, 9768.

89. Pseudopolymorphism of a Highly Adaptable Tetraarylpyrene Host that Exhibits Abundant Solid-State Guest Inclusion
(Published as part of virtual special issue In Honor of Prof. G. R. Desiraju, Invited Article)
Natarajan, P.; Bajpai, A.; Venugopalan, P.; **Moorthy, J. N.**
Cryst. Growth & Des. **2012**, *12*, 6134.

88. *Twisted* Bimesitylene-Based Oxadiazoles as Novel Host Emitting Materials for Phosphorescent OLEDs
Venkatakrishnan,P.; Natarajan, P.; Lin, Z.; Chow, T. J.; **Moorthy, J. N.**
Tetrahedron **2012**, *68*, 7502.

87. Through-Space Control of the Persistence of Photogenerated o-Quinonoid Intermediates in Naphthalenes Containing Cofacially Oriented Chromenes and Arenes
Moorthy,J. N.; Mandal, S.; Parida, K. N.
Org. Lett. **2012**, *14*, 2438.

86. Crystal Engineering: Lattice Inclusion Based on O−H···O Hydrogen-Bonded Self-Assembly and Guest-Induced Structural Mimicry
Bajpai, A.; Natarajan, P.; Venugopalan, P.; **Moorthy, J. N.**
J. Org. Chem. **2012**, *77*, 7858.

85. Electrochemistry and Electrogenerated Chemiluminescence of Twisted Anthracene-functionalized Bimesitylenes
Suk, J.; Natarajan, P.; **Moorthy, J. N.**; Bard, A. J.
J. Am. Chem. Soc. **2012**, *134*, 3451.

84. Hydrogen-Bonded Helical Self-Assembly of Sterically-Hindered Benzyl Alcohols: Rare Isostructurality and Synthon Equivalence Between Alcohols and Acids
Moorthy, J. N., Mandal,S.; Venugopalan, P.
Cryst. Growth & Des. **2012**, *12*, 2942.

82. Rational molecular design for multicomponent guest inclusion in the solid state: differential binding of small and large aromatic guests
Natarajan, P.; Bajpai, A.; Venugopalan, P.; **Moorthy, J. N**
Curr. Sci. (Invited Article, Special Issue) **2011**, *101*, 939.

81. *Twist* Does a *Twist* to the Reactivity: Stoichiometric and Catalytic Oxidations with *Twisted* Tetramethyl-IBX
Moorthy, J. N.; Senapati, K.; Parida, K. N.; Jhulki, S.; Sooraj, K.; Nair, N. N.
J. Org. Chem. **2011**, *76*, 9593.

80. Influence of (2,3,4,5,6-Pentamethyl/phenyl)phenyl Scaffold: Stereoelectronic Control of the Persistence of *o*-Quinonoid Reactive Intermediates of Photochromic Chromenes
Mandal, S.; Parida, K.N.; Samanta, S.; **Moorthy, J. N.**
J. Org. Chem. **2011**, *76*, 7406.

79. Trigonal Rigid Triphenols: Self-Assembly and Multicomponent Lattice Inclusion
Moorthy, J. N.; Natarajan, P. Bajpai, A.; Venugopalan, P.
Cryst. Growth & Des. **2011**, *11*, 3406.

78. IBX-mediated one-pot synthesis of benzimidazoles from primary alcohols and arylmethyl bromides
Neogi, I.; **Moorthy, J. N.**
Tetrahedron Lett. **2011**, *52*, 3868.

77. Steady-State Photochemistry (Pscorr Cyclization) and Nanosecond Transient Absorption Spectroscopy of *Twisted* 2-Bromoaryl Ketones (Invited Article)
Moorthy, J. N.; Samanta, S.; Koner, A. L.; Nau, W. M.
Pure Appl. Chem. **2011**, *83*, 841.

76. Enantioselective Organocatalytic Biginelli Reaction: Dependence of the Catalyst on Sterics, Hydrogen Bonding, and Reinforced Chirality
Saha, S.; **Moorthy, J. N.**
J. Org. Chem. **2011**, 76, 396.

75. 6-Membered Pseudocyclic IBX Acids: Syntheses, X-Ray Structural Characterizations and Oxidation Reactivities in Common Organic Solvents
Moorthy, J. N.; Senapati, K.; Parida, K. N.
J. Org. Chem. **2010**, 75, 8416.

74. A novel tetraarylpyrene host: Conformation-dependent inclusion of guest molecules in the crystal lattice
Natarajan, P.; Venugopalan, P; **Moorthy, J. N.**
J. Chem. Sci. (Invited Article, Special Issue) **2010**, *122*, 697.

73. C_3-Symmetric Proline-Functionalized Organocatalysts: Enantioselective Michael addition reactions
Moorthy, J. N.; Saha, S.
Eur. J. Org. Chem. **2010**, 6359.

72. Functionalized proline with double hydrogen bonding potential: highly enantioselective Michael addition of carbonyl compounds to β-nitrostyrenes in brine
Saha, S.; Seth, S.; Moorthy, J. N.
Tetrahedron Lett. **2010**, *51*, 5281

71. Engineering of Ternary Co-Crystals Based on Differential Binding of Guest Molecules by a Tetraarylpyrene Inclusion Host
Moorthy, J. N.; Natarajan, P.; Venugopalan, P.
Chem. Comm. **2010**, *46*, 3574.

70. Guest⊂Guest⊂Host Molecular Russian Dolls: Porous Honeycomb Networks via Trimeric Hydrogen-Bonded Self-Assembly of 3-Connecting 1,3,5-Tri(*p*-hydroxyphenyl)benzenes
Moorthy, J. N.; Natarajan, P
Chem. Eur. J. **2010**, *16*, 7796.

69. Non-Doped Pure-Blue OLEDs Based on Amorphous Phenylenevinylene-Functionalized *Twisted* Bimesitylenes
Moorthy, J. N.; Natarajan, P.; Venkatakrishnan, P.; Natarajan, P.; Huang, D-F.; Chow, T. J.
J. Org. Chem. **2010**, *75*, 2599.

68. Highly enantioselective aldol reactions using *N*-arylprolinamides with enhanced acidity and double H-bonding potential
Saha, S.; **Moorthy, J. N.**
Tetrahedron. Lett. **2010**, *51*, 912.

67. Abundant Lattice Inclusion Phenomenon with Sterically Hindered and Inherently Shape-Selective Tetraarylpyrenes
Moorthy, J. N.; Natarajan, P.; Venugopalan, P.
J. Org. Chem. **2009**, *74*, 8566.

66. IBX-I_2 Redox Couple for Facile Generation of IOH and I^+: Expedient Protocol for Iodohydroxylation of Olefins and Iodination of Aromatics
Moorthy, J. N. Senapati, K.; Singhal, N.
J. Org. Chem. **2009**, *74,* 6287.

65. An expedient protocol for conversion of olefins to α-bromo/iodoketones using IBX and NBS/NIS
Moorthy, J. N. Senapati, K.; Singhal, N.
Tetrahedron Lett. **2009**, *50*, 2493.

64. Modulation of Spectrokinetic Properties of *o*-Quinonoid Reactive Intermediates by Electronic Factors: Time-Resolved Laser Flash and Steady-State Photolysis Investigations of Photochromic 6- and 7-Arylchromenes
Moorthy, J. N.; Koner, A. L.; Samanta, S.; Roy, A.; Nau, W. M.
Chem. Eur. J. **2009**, *15*, 4289.

63. Highly Diastereo- and Enantioselective Control of Aldol Reactions in Common Organic Solvents Using N-Arylprolinamides as Organocatalysts with Enhanced Acidity
Moorthy, J. N.; Saha, S.
Eur. J. Org. Chem. **2009**, 739.

62. A De Novo Design for Functional Amorphous Materials: Synthesis, Thermal and Light Emitting Properties of *Twisted* Anthracene-Functionalized Bimesitylenes
Moorthy, J. N.; Natarajan, P.; Venkatakrishnan, P.; Natarajan, P.; Huang, D-F.; Chow, T. J.
J. Am. Chem. Soc. **2008**, *130*, 17320.

61. Crystal Engineering with Sterically-Hindered Molecular Modules: Unique Supramolecular Synthons and Novel Molecular Self Assembly
Moorthy, J. N.
J. Ind. Inst. Sci. **2008**, *88*, 131.

60. Intramolecular O-H···O Hydrogen Bond-Mediated Reversal in the Partitioning of Conformationally-Restricted Triplet 1,4-Biradicals and Amplification of Diastereodifferentiation in their Lifetimes
Moorthy, J. N.; Samanta, S.; Koner, A. L.; Saha, S.; Nau, W. M.
J. Am. Chem. Soc. **2008**, *130*, 13608.

59. Sterically hindered aromatic tethered carboxylic acids: What is the critical length of the tether for adoption of centrosymmetric dimer synthon?
Moorthy, J. N.; Natarajan, P.
Cryst. Growth & Des. **2008**, *8*, 3360.

58. Non-Coplanar Aromatic Carboxylic Acids: Unusual Conformation-Dependent Self-Assembly and Pseudopolymorphism of Di(3-carboxymesityl)methane

Moorthy, J. N.; Natarajan, P.
J. Mol. Str. **2008**, 885, 139.

57. Blue light-emitting and hole-transporting amorphous molecular materials based on Diarylaminobiphenyl-fuctionalized bimesitylenes
Moorthy, J. N.; Natarajan, P.; Venkatakrishnan, P.; Huang, D-F.; Chow, T. J
Chem. Commun. **2008**, 2146.

56. Modified *o*-Methyl-Substituted IBX Analogs: Room Temperature Oxidation of Alcohols and Sulfides in Common Organic Solvents
Moorthy, J. N.; Singhal, N.; Senapati, K.
Tetrahedron. Lett. **2008**, *49*, 80.

55. Photoinduced C-Br Homolysis of 2-Bromobenzophenones and *Pschorr Ring Closure* of 2-Aroylaryl Radicals to Fluorenones
Moorthy, J. N.; Samanta, S.
J. Org. Chem. **2007**, *72*, 9786.

54. Steric Inhibition of π-Stacking: 1,3,6,8-Tetraarylpyrenes as Efficient Blue Emitters in Organic Light Emitting Diodes (OLEDs)
Moorthy, J. N.; Natarajan, P.; Venkatakrishnan, P.; Huang, D-F.; Chow, T. J.
Org. Lett. **2007,** *9*, 5215.

53. Novel Photochromism of Differently-Linked Bis-Benzopyrans
Moorthy, J. N.; Venkatakrishnan, P.; Samanta, S.
Org. Biomol. Chem. **2007**, *05*, 1354.

52. Photochromism of Arylchromenes: Remarkable Modification of Absorption Properties and Lifetimes of *o*-Quinonoid Intermediates
Moorthy, J. N.; Venkatakrishnan, P.; Samanta, S.; Krishna Kumar, D.
Org. Lett. **2007**, *9*, 919.

51. Oxidative Cleavage of Vicinal Diols: IBX Can Do What Dess-Martin Periodinane Can!
Moorthy, J. N.; Singhal, N.; Senapati, K.
Org. Biomol. Chem. **2007**, *05*, 767.

50. Double Photodimerization: Topochemical Conversion of 4-Methyl-7-Styrylcoumarin Dimorphs into a Strained Cyclophane
Moorthy, J. N.; Venkatakrishnan, P.
Crystal Growth & Des. **2007**, *7*, 713.

49. Photochemistry of Dicarbonyl Compounds: Influence of Steric and Electronic Factors in the Cyclization and Diels-Alder Trapping Reactions of Photoenols
Moorthy, J. N.; Samanta, S.
Arkivoc (Invited article) **2007**, *viii*, 324.

48. Facile Synthesis, Fluorescence, and Photochromism of Novel Helical Pyrones and Chromenes
Moorthy, J. N.; Venkatakrishnan, P.; Sengupta, S.; Baidya, M.
Org. Lett. **2006**, 08, 4891.

47. Diastereomeric Discrimination in the Lifetimes of Norrish Type II Triplet 1,4-Biradicals and Stereo-Controlled Partitioning of their Reactivity (Yang Cyclization vs Type II Fragmentation)
Moorthy, J. N.; Koner, A. L.; Samanta, S.; Singhal, N.; Nau, W. M.; Weiss. R. G.
Chem. Eur. J. **2006**, *12*, 8744.

46. *Cis→trans* and *trans→cis i*somerizations of styrylcoumarins in the solid state. Importance of the location of free volume in crystal lattices
Moorthy, J. N.; Venkatakrishnan, P.; Savitha, G.; Weiss, R. G.
Photochem. Photobiol. Sci. **2006**. *05*, 903.

45. β-Phenyl Quenching of Triplet-Excited Ketones: How Critical is the Geometry for Deactivation?
Samanta, S.; Misra, B. K.; Pace, T. C. S.; Sathyamurthy, N.; Bohne, C.; **Moorthy, J. N.**
J. Org. Chem. **2006**, *71*, 4453.

44. Anion-Driven Self-Assembly of Tetrapyridyl Ligand with a Twist
Moorthy, J. N.; Natarajan, R.; Savitha, G.; Suchopar, A.; Richards, R. M.
J. Mol. Struct. **2006**, *796*, 216.

43. Influence of Weaker Interactions on the Self-Assembly of Rigid Molecular Scaffolds Based on Tetraarylbimesityls
Moorthy, J. N. Natarajan, R.; Savitha, G.; Venugopalan, P.
Crystal Growth & Des. **2006**, *06*, 919.

42. Oxidations with IBX: Benzyl Halides to Carbonyl Compounds, and the One-Pot Conversion of Olefins to 1,2-Diketones
Moorthy, J. N.; Singhal, N.; Senapati, K.
Tetrahedron Lett. **2006**, *47*, 1757.

41. Diastereomer-Differentiating Photochemistry: Control of the Reactivity of Triplet 1,4-Biradicals Derived from Norrish Type II Reactions
Moorthy, J. N.; Singhal, N.; Samanta, S. *ISRAPS (Indian Society for Radiation and Photochemical Sciences) Bulletin* **2006**, *18*, 45.

40. 3-Dimensional 4-Connecting Organic Scaffolds with a *Twist*: Synthesis and Self-Assembly
Moorthy, J. N; Natarajan, R.; Venugopalan, P.
J. Org. Chem. **2005**, *70*, 8586.

39. Corundum, Diamond, and PtS Metal–Organic Frameworks with a Difference: Self-Assembly of a Unique Pair of 3-Connecting D_2d-Symmetric 3,3′,5,5′-Tetrakis(4-pyridyl)bimesityl
Natarajan, R.; Savitha, G.; Dominiak, P.; Wozniak, K.; **Moorthy, J. N.**
Angew. Chem. Int. Ed. **2005**, *44*, 2415.

38. Diastereomer-Differentiating Photochemistry of β-Arylbutyrophenones: Yang Cyclization versus Type II Elimination
Singhal, N.; Koner, A. L.; Mal, P.; Venugopalan, P.; Nau, W. M.; **Moorthy, J. N**.
J. Am. Chem. Soc. **2005**, *127*, 14375.

37. Substituent Electronic Effects on the Persistence and Absorption Spectra of (Z)-*o*-Xylylenols. A Nanosecond Laser-Flash Photolysis Study

Koner, A. L.; Singhal, N.; Nau, W. M.; **Moorthy, J. N.**
J. Org. Chem. **2005**, *70*, 7439.

36. Identification of a New Supramolecular Synthon in *o*-Anisaldehydes: Molecular Self-Assembly into Tapes and Staircases
Moorthy, J. N.; Natarajan, R.; Venugopalan, P.
J. Mol. Struct. **2005**, *741*, 107.

35. Self-Assembly of a Unique Extended-Tetrahedral 3,3′,5,5′-Tetrakis(4-pyridyl)bimesityl Ligand into Discrete Supramolecular Cubes by Face-Directed Metal Coordination
Moorthy, J. N.; Natarajan, R.; Mal, P.; Venugopalan, P.
Cryst. Growth & Des. **2005**, *05*, 69.

34. Facile and Highly Selective Conversion of Nitriles to Amides via Indirect Acid-Catalyzed Hydration Using TFA or AcOH-H_2SO_4
M**oorthy, J. N.**; Singhal, N.
J. Org. Chem. **2005**, *70*, 1926.

33. Polymorphism of an *o*-Anisaldehyde: A Novel Example of Channel-Type Organization Sustained by Weak C–H···O and C–H···N Hydrogen Bonds
Moorthy, J. N.; Natarajan, R.; Mal, P.; Venugopalan, P.
New J. Chem. **2004**, *28*, 1416.

32. Highly Diastereoselective Tandem Photoenolization-Hetero-Diels-Alder Cycloaddition Reactions of *o*-Tolualdehydes in the Solid State
Moorthy, J. N.; Mal, P.; Singhal, N.; Venkatakrishnan, P.; Malik, R.; Venugopalan, P.
J. Org. Chem. **2004**, *45*, 309.

31. Studies on Oxidations with IBX: Oxidation of Alcohols and Aldehydes under Solvent-Free Conditions
Moorthy, J. N.; Singhal, N.; Venkatakrishnan, P. *Tetrahedron Lett.* **2004**, *45*, 5419.

30. Facile Conversion of Lactols to Lactones Using IBX
Moorthy, J. N.; Singhal, N.; Mal, P.
Tetrahedron Lett. **2004**, *45*, 309.

29. Molecular Self-Assembly: 4-Formylcoumarins as Versatile Skeletons for Complementary Multi-Point Recognition via Weak C-H···O, C-H···F and C-X···O=C Interactions.
Moorthy, J. N.; Venkatakrishnan, P.; Singh, A.
CrystEngComm., **2003**, *5*, 507

28. Crystal Engineering: Identification of a Unique Supramolecular Synthon Based on C=O···X interaction in Halogen-Substituted Aromatic Carboxaldehydes
Moorthy, J. N.; Venkatakrishnan, P.; Mal, P.; Dixit, S.; Venugopalan, P.
Cryst. Growth & Des. **2003**, *03*, 581.

27. Photochemistry of *o*-Alkyl Aromatic Aldehydes
Moorthy, J. N.
ISRAPS (Indian Society for Radiation and Photochemical Sciences) Bulletin, **2003**, *14*, 18.

26. Norrish Type II Photoreactivity of β-Anisylalkanophenones and Solvent Effects on Stereoselective Yang Cyclization
Moorthy, J. N.; Mal, P.
Tetrahedron Lett., **2003,** *44*, 2493.

25. Conformational Control and Photoenolization of Pyridine-3-Carboxaldehydes in the Solid State: Stabilization of Photoenols via Hydrogen-Bonding and Electronic Control
Mal, P.; Lourderaj, U.; Parveen.; Venugopalan, P.; **Moorthy, J. N.**; Sathyamurthy, N.
J. Org. Chem. **2003**, *68*, 3446.

24. Solid-State Diphotocyclization of Iso- and Terephthalaldehydes via Dihalogen Substitution
Moorthy, J. N.; Venkatakrishnan, P.; Mal, P.; P. Venugopalan
J. Org. Chem. **2003**, *68*, 327.

23. Characterization of Planar Cyclic Ring Form of Water Hexamer in an Organic Supramolecular Complex. Unusual Self-Assembly of Bimesityl-3,3′-Dicarboxylic Acid
Moorthy, J. N.; Natarajan, R.; Venugopalan, P.
Angew. Chem. Int. Ed. **2002**, *41*, 3417.

22. Helical Self- Assembly of Substituted-Benzoic Acids: Influence of Weaker X···X and C-H···X Interactions
Moorthy, J. N.; Natarajan, R.; Mal, P.; Venugopalan, P.
J. Am. Chem. Soc. **2002**, *124*, 6530.

21. Efficient Photocyclization of o-Alkylbenzaldehydes in the Solid State: Direct Observation of E-Xylylenols en route to Benzocyclobutenols
Moorthy, J. N.; Mal, P.; Natarajan, R.; Venugopalan, P.
J. Org. Chem. **2001,** *66*, 7013.

20. Solid-State Photochromism and Photoreactivity of *o*- and *p*-Anisaldehydes. Remarkable Stabilization of *o*-Xylylenols
Moorthy, J. N.; Mal, P.; Natarajan, R.; Venugopalan, P.
Org. Lett. **2001**, *03*, 1579.

19. Photochromism and Photoreactivity of 2,6-Dichloro-4-methyl-3-pyridinecarbox-aldehyde in the Solid State
Ghosh, S. K.; Sarkar, T. K.; **Moorthy, J. N.**; Fang, J-M.; Nandy, S. K.; Sathyamurthy, N.; Chakraborty, D.
Tetrahedron Lett. **2000**, *41*, 6909.

18. Photochemical Denitrogenation of Norbornene-Annelated 2,3-Diazabicyclo[2.2.1]hept-2-ene-Type Azoalkanes: Crystal-Lattice versus Zeolite-Interior Effects.
Adam, W.; Garcia, H.; Marti, V.; **Moorthy, J. N.**; Peters, K.; Peters, E-M.
J. Am. Chem. Soc. **2000**, ***122,*** 3536.

17. Stereoselective Photodimerization of (E)-Stilbenes in Crystalline -Cyclodextrin Inclusion complexes
Rao, K. S. S. P., Hubig, S. M., **Moorthy, J. N.**; Kochi, J. K.
J. Org. Chem. **1999**, *64*, 8098.

16. Homolytic Substitution (SH2) versus Triplet Diradical (ISC) in the Photochemical Denitrogenation of a DBH Azoalkane: Temperature-Dependent syn/anti Diastereoselectivity as a Mechanistic Probe for the Doubly Inverted Housane
Adam, W., Garcia, H., Marti, V., **Moorthy, J. N.** *J. Am. Chem. Soc.* **1999**, *121*, 9475.

15. Effect of Cyclodextrin Complexation on the Photochemistry of the Lignin Model -Guaiacoxyacetoveratrone
Okano, L. T.; Ovans, R.; Zunic, V.; **Moorthy, J. N.**; Bohne, C.
Can. J. Chem. **1999**, *77*, 1356.

14. Intramolecular Charge-Transfer Quenching: Modulation of Lifetimes and Diastereomeric Discrmination in Triplet-Excited Substituted Butan-1,4-Diones
Moothy, J. N.; Monahan, S.; Sunoj, R. B.; Chandrasekar, J.; Bohne, C.
J. Am. Chem. Soc. **1999**, *121*, 3093.

13. Paper Acidity Estmation: Application of pH-Dependent Fluorescent Probes
Moorthy, J. N.; Schevchenko, T.; Magon, A.; Bohne, C.
J. Photochem. Photobiol. A. **1998**, *113*, 189.

12. Remarkable Discrimination in the Triplet Lifetimes of the Diastereomers of 2,3-Diphenyl-1,4-bis(*p*-methoxyphenyl)butan-1,4-dione
Moorthy, J.N.; Patterson, W.S.; Bohne, C.
J. Am. Chem. Soc. **1997**, *119*, 11094.

11. Photoreduction of Azoalkanes by Direct Hydrogen Abstraction from 1,4-Cyclohexadiene, Alcohols, Stannanes and Silanes
Adam, W.; **Moorthy, J.N**.; Nau, W.M.; Scaiano, J.C.
J. Org. Chem. **1997**, *62*, 8082.

10. Solvent Effect on Product Distribution in Photochemical Pathways of □ C-N versus□□ C-C Cleavage of n,□* Triplet-Excited Azoalkanes.
Adam, W.; **Moorthy, J. N**.; Nau, W. M.; Scaiano, J. C.
J. Am. Chem. Soc. **1997**, *119*, 5550.

9. Charge-Transfer-Induced Photoreduction of Azoalkanes by Amines
Adam, W.; **Moorthy, J. N**.; Nau, W. M.; Scaiano, J. C.
J. Am. Chem. Soc. **1997**, *119*, 6749.

8. Stereospecific Solid State $NaBH_4$-Promoted Reduction of 1-Methypentacyclo-[5.4.0.0(2,6).0(3,10).0(5,9)] undecane-8,11-dione
Bott, S.G.; Marchand, A.P.; Xing, D.; Shukla, R.; Obrey, S.J.; Venkatesan, K.; **Moorthy, J. N**.
J. Chem. Cryst. **1997**, *27*, 661.

7. Photoreduction of Azoalkane Triplet States by Hydrogen Atom and Charge Transfer
Adam, W.; **Moorthy, J. N**.; Nau, W. M.; Scaiano, J. C.
J. Org. Chem. **1996**, *61*, 8722.

6. Studies in Crystal Engineering: Structure-Reactivity Correlations of Substituted Styrylcoumarins and Related Systems
Moorthy, J. N.; Samanth, S.D.; Venkatesan, K.
J. Chem. Soc., Perkin Trans. 2. **1994**, 1223.

5. Photobehaviour of Crystalline 4-Styrylcoumarin Dimorphs: Structure-Reactivity Correlations
Moorthy, J. N.; Venkatesan, K. *Bull. Chem. Soc. Jpn.* **1994**, *67*, 1.

4. Photodimerization of Coumarins in Solid Cyclodextrin Inclusion Complexes
Moorthy, J.N.; Weiss, R.G.; Venkatesan, K.
J. Org. Chem. **1992**, *57*, 3292.

3. Unusual Photobehaviour of Crystalline 7-Methoxy-4-Methylcoumarin
Moorthy, J. N. Venkatesan, K.
J. Mater. Chem. **1992**, *2*, 675.

2. Synthetic Studies Towards Prismanes: Rearrangements in Some Pentacyclic Precursors
Mehta, G.; Padma, S.; Venkatesan, K.; Begum, N. S.; **Moorthy, J.N.**
Ind. J. Chem. **1992**, *31B*, 473.

1. Stereospecific Photodimerization of Coumarins in Crystalline Inclusion Complexes: Molecular and Crystal Structure of 1:2 Complex of (S,S)-(-)-1,6-Bis(*o*-Chlorophenyl)- 1,6-diphenyl-hexa-2,4-diyne-1,6-Diol and Coumarin
Moorthy, J.N.; Venkatesan, K.
J. Org. Chem. **1991**, *56*, 6957.

Book Chapters Contributed:

"Electron Transport Materials (ETMs) in Organic Light Emitting Diodes (OLEDs): Design Considerations and Structural Diversity"

Jhulki, S.; Neogi, I.; Moorthy, J. N. In *Organic Structures Design – Applications in Optical and Electronic Devices*; Chow, T. J., Ed.; Pan Stanford Publishing, 2013.

Journal Issue/s Edited:

1. A special Issue on '*Chemical Crystallography*', Edited by J. N. Moorthy and R. Murugavel; *J. Chem. Sci.* 2014 (October).
2. A special Issue on '*Coordination Polymers*', Edited by J. N. Moorthy and J. J. Vittal; *J. Mol. Struct.* (An Elsevier Journal) 2006, Vol. No. 796.

Research

We are engaged in diverse research activities that fall under the general area of 'physical organic chemistry'. The research spans a variety of themes that cut into different branches of chemistry, namely, i) photochemistry, ii) supramolecular chemistry, iii) organic materials and iv) mechanistic organic chemistry/organic synthesis. The underpinning premise that pervades in all our investigations is – 'structure is an embodiment of reactivity and self-assembly'; the latter decisively determines the properties of the bulk materials.

Insofar as the photochemistry is concerned, we have comprehensively established solid-state photochemistry of *o*-alkylaromatic aldehydes, Norrish Type II reactivity of [illegible]-disubstituted butyrophenones and 'diastereomer-differentiating photochemistry' of the latter. We have shown through nanosecond time-resolved transient absorption spectroscopy that the diastereomer-differentiating photochemistry observed in the products emanates at the triplet state and that the diastereomeric 1,4-biradicals of the precursors of the products likewise collapse with different rates. At the same time, we have been exploring fundamental aspects underlying the phenomenon of photochromism in a class of compounds called chromenes. We have shown that simple arylation of diarylchromenes can lead to dramatic modification of the photochromic properties through changes in the absorption properties of the colored *o*-quinonoid intermediates. Similarly, a variety of factors such as toroidal conjugation, through- space interactions, phane effects and helicity have been shown to influence the phenomenon of photochromism in diarylchromenes.

In the realm of supramolecular chemistry, we have shown that sterically-hindered carboxylic acids exhibit unique synthons. Using 'sterics' as a design element, we have rationally created a variety of molecular modules based on methylarenes, bimesityls and pyrenes, and demonstrated a rich inclusion chemistry. Further, we have exemplified control of molecular self-assembly based on hydrogen and coordinate covalent bonds. A variety of functional metal-organic frameworks (MOFs) have been demonstrated based on bottom-up approach. In our recent investigations, we have demonstrated access to functional, that is, photoresponsive, sensing and redox-active, 2D metal-organic nanosheets (MONs) by *de novo* design of organic linkers. By exploiting the concepts of supramolecular chemistry, a novel class of amorphous materials has been developed and their functional utility applied to development of OLEDs (organic light-emitting diodes) with high quantum efficiencies demonstrated.

We have been endeavoring to apply the riches of supramolecular chemistry to develop novel oxidation chemistry based on IBX and Oxone; IBX is a reagent that has surged into prominence in the contemporary oxidation chemistry. We have also exploited hydrogen bonding to regulate stereoselectivity in organocatalytic transformations. In recent times, we are striving to develop *amorphous* porous organic polymers (POPs) as recyclable, stable and robust heterogeneous catalysts for organic transformations. This activity is built based on our extensive investigations with *ordered* metal-organic frameworks (MOFs).