

List of Publications (*List of papers, book chapters, patents granted*).

Sl No.	Authors	Title	References
128.	Subir Maji, Arpan Das, Madhur Mahesh Bhatt and <u>Swadhin K. Mandal</u>	Metal-Free Organocatalytic S-Formylation of Thiols using CO ₂	<i>Nature Catalysis</i> 2024, https://doi.org/10.1038/s41929-024-01114-7
127.	Paramita Datta, Debojyoti Roy, Divya Jain, Shiv. Kumar, Swagata Sil, Anup Bhunia, Jyotishman Dasgupta and <u>Swadhin K. Mandal</u>	Uncovering the On-pathway Reaction Intermediates for Metal-Free Atom Transfer Radical Addition to Olefins through Photogenerated Phenalenyl Radical Anion	ACS Catalysis 2024, <i>14</i> , 3420-3433
126.	Shiv Kumar, Paramita Datta, Anup Bhania and <u>Swadhin K.Mandal</u>	Denitrogenation of Tosylhydrazones: Synthesis of Aryl Alkyl Sulfones Catalyzed by Phenalenyl Based Molecule	Catal. Sci. Technol. 2024, <i>14</i> , 174-182

125. Nimisha Gautam, Ratan Logdi, Sreejyothi P, Antara Roy, Ashwani K. Tiwari and <u>Swadhin K. Mandal</u>	<i>Bicyclic (alkyl)(amino)carbene (BICAAC) in Dual Role: Activation of Primary Amides and CO₂ towards Catalytic N-Methylation</i>	<i>Chemical Science 2023, 14, 5079-5086</i>
124. Paramita Datta, Tanmay Goswami, Noufal Kandoth, Ananya Banik, Jasimuddin Ahmed, Athul Santha Bhaskaran, Ramchandra Saha, Rositha Kuniyil, Harendra N. Ghosh, <u>Swadhin Kumar Mandal</u>	<i>Generation of Photoinduced Phenalenyl-Based Radical: Towards Designing Reductive C-C Coupling Catalysis</i>	<i>ChemPhotoChem 2023, Just Accepted</i>
123. Ananya Banik, Paramita Datta and <u>Swadhin K. Mandal</u>	<i>C-Alkylation by Phenalenyl-based Molecule via Borrowing Hydrogen Pathway</i>	<i>Organic Letters 2023, 25, 8, 1305–1309</i>

122. Amit Biswas, Anup Bhunia and <u>Swadhin K. Mandal</u>	<i>Mechanochemical Solid State Single Electron Transfer from Reduced Organic Hydrocarbon for Catalytic Aryl- halide Bond Activation</i>	<i>Chemical Science 2023, 14, 2606-2615</i>
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121. Swagata Sil, Athul Santha Bhaskaran, Soumi Chakraborty, Bhagat Singha, Rositha Kuniyil and <u>Swadhin K. Mandal</u>	<i>Reduced Phenalenyl Based Molecule as a Super Electron Donor for Radical Mediated C-N Coupling Catalysis at Room Temperature</i>	<i>J. Am. Chem. Soc. 2022, 144, 49, 22611–22621</i>
120. Arpan Das, Pallavi Sarkar, Subir Maji, Swapna K. Pati and <u>Swadhin K. Mandal</u>	<i>Mesoionic N-Heterocyclic Imines as Super Nucleophiles in Catalytic Coupling of Amides by CO₂</i>	<i>Angew. Chem. Int. Ed. 2022, 61, e202213614(1 of 10)</i>
119. Soumi Chakraborty, Rounak Nath, Anuj Kumar Ray, Ankan Paul and <u>Swadhin K. Mandal</u>	<i>Metal-Ligand Cooperativity in Mn(I)-Catalyzed N-Formylation of Secondary Amides and Lactams using CO₂ at Room Temperature</i>	<i>Chem. Eur. J. 2023, 29, e202202710(6 of 9)</i>

118.	Subir Maji, Pallavi Sarkar, Arpan Das, Swapna K. Pati and <u>Swadhin K. Mandal</u>	<i>Benzimidazolyliden e Stabilized Borenium Ion for Catalytic Hydrogenation of N-heterocycles</i>	<i>Inorg. Chem. 2022, 61, 36, 14282–14287</i>
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117.	Sreejyothi P, Pallavi Sarkar, Supriti Dutta, Arpan Das, Swapna K Pati and <u>Swadhin K Mandal</u>	<i>Regioselective ring-opening of epoxides towards Markovnikov alcohols: A metal-free catalytic approach using abnormal N-heterocyclic carbene</i>	<i>Chem. Commun., 2022, 58, 9540-9543</i>
116.	Jasimuddin Ahmed and <u>Swadhin K. Mandal</u>	<i>Phenalenyl Radical: Smallest Polycyclic Odd Alternant Hydrocarbon Present in the Graphene Sheet</i>	<i>Chemical Reviews 2022, 122, 13, 11369–11431</i>
115.	Ananya Banik and <u>Swadhin K. Mandal</u>	<i>Tuning Redox States of Phenalenyl Based Molecule by Consecutive Reduction towards Transition Metal-Free Heck type C-C Cross-Coupling</i>	<i>ACS Catalysis 2022, 12, 5000-5012</i>
114.	Nimisha Gautam, Ratan Logdi, Sreejyothi P, N. M. Rajendran, Ashwani K. Tiwari and <u>Swadhin K. Mandal</u>	<i>Bicyclic (alkyl)(amino)carbene (BICAAC) as a metal-free catalyst for reduction of nitriles to amines</i>	<i>Chem. Commun. 2022, 58, 3047-3050</i>

113.	Soumi Chakraborty, Arpan Das , and Swadhin K. Mandal	<i>Redox-active Ligand Based Mn(I)-Catalyst for Hydrosilylative Ester Reduction</i>	Chem. Commun. 2021, 57, 12671- 12674
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112.	Subir Maji, Arpan Das and <u>Swadhin K. Mandal</u>	<i>Mesoionic N-heterocyclic Olefin Catalysed Reductive Functionalization of CO₂ for Consecutive N-Methylation of Amines</i>	<i>Chemical Science, 2021, 12, 12174-12180</i>
111.	Arpan Das, Soumi Chakraborty and <u>Swadhin K. Mandal</u>	<i>Abnormal N-heterocyclic Carbene Based Ni(II) π-allyl Complex towards Molecular Oxygen Activation</i>	<i>Chemistry — An Asian Journal, 2021, 16, 2257–2260</i>
110.	Sreejyothi P, Kalishankar Bhattacharyya, Shiv Kumar, Pradip Kumar Hota, Ayan Datta and <u>Swadhin K. Mandal</u>	<i>An NHC-stabilized phosphinidene for catalytic formylation: A DFT guided approach</i>	<i>Chem. -Eur. J 2021, 27, 11656 –11662</i>
109.	Ananya Banik, Jasimuddin Ahmed, Swagata Sil, <u>Swadhin K. Mandal</u>	<i>Mimicking Transition Metals in Borrowing Hydrogen from Alcohols</i>	<i>Chemical Science, 2021, 12, 8353-8361</i>
108.	Bhagat Singh, Jasimuddin Ahmed, Amit Biswas, Rupankar Paira, and <u>Swadhin K. Mandal</u>	<i>Reduced Phenalenyl in Catalytic Dehalogenative Deuteration and Hydrodehalogenation of Aryl Halides</i>	<i>J. Org. Chem 2021, 86, 10, 7242–7255</i>

107.	N. M. Rajendran, Nimisha Gautam, Jasimuddin Ahmed, Pallavi Sarkar, Arpan Das, Shubhajit Das, Swapan K. Pati, <u>Swadhin K. Mandal</u>	<i>Bicyclic(alkyl)(amino)carbene stabilized zinc(0) complex and its electron transfer reactivity</i>	<i>Chem. Commun.</i> 2021, 57, 5282-5285
106.	Jasimuddin Ahmed, Paramita Datta, Arpan Das, Steph Jomy and <u>Swadhin K. Mandal</u>	<i>Switching between mono and doubly reduced odd alternant hydrocarbon: designing a redox catalyst</i>	<i>Chemical Science</i> 2021, 12, 3039-3049

105.	Arpan Das, Jasimuddin Ahmed, N. M. Rajendran, Debashis Adhikari and Swadhin K. Mandal	<i>A Bottleable Imidazole-Based Radical as a Single Electron Transfer Reagent</i>	J. Org. Chem. 2021, 86, 1246–1252
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104.	Pradip Dutta, Smita Kumari, Justin Paulraj, Rupali Sharma, Gonela Vijaykumar, Hari Sankar Das, Prasannakumar	<i>Novel Phenalenyl Based Platinum Anticancer Compounds with Superior Efficacy: Design, Synthesis,</i>	New Journal of Chemistry, 2021,45,10524- 10533
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	Sreejyothi, Swagata Sil, <u>Swadhin K. Mandal,</u> Aniruddha Sengupta, Arindam Sarkar	<i>Characterization, and Interaction with NuclearDNA</i>	
103.	Ravindra Dhar Dubey, Arindam Sarkar, Zheyu Shen, Vladimir I. Bregadze, Igor B. Sivaev, Anna A. Druzina, Olga B. Zhidkova, Akim V. Shmal'ko, Irina D. Kosenko, Prasannakumar Sreejyothi, <u>Swadhin Mandal</u> , Narayan S. Hosmane	<i>Effects of linkers on the Development of Liposomal Formulation of Cholesterol Conjugated cobalt bis(dicarbollides) for Boron Neutron Capture Therapy in Cancer</i>	<i>Journal of Pharmaceutical Sciences</i> 2021, 110 , 1365-1373
102.	Sreejyothi P and <u>Swadhin K Mandal</u>	<i>From CO₂ Activation to Catalytic Reduction: A Metal- free Approach</i>	<i>Chemical Science</i> 2020 11 , 10571 - 10593
101.	Soumi Chakraborty, Jasimuddin Ahmed, Arpan Das and <u>Swadhin K Mandal</u>	<i>Designing Cr-catalyst Bearing a Redox Non-innocent Phenalenyl-Based Ligand towards Hydrosilylative CO₂ Functionalization</i>	<i>Chem. Commun.</i> 2020 56 , 13788-13791
100.	Vladimir I. Bregadze, Igor B. Sivaev, Andrey Semioshkin, Akim V. Shmal'ko, Irina D. Kosenko, Kseniya V. Lebedeva, <u>Swadhin K Mandal</u> , Prasannakumar Sreejyothi, Ravindra Dhar Dubey, Arindam Sarkar, Zihou Li, Zheyu Shen, Aiguo Wu, Narayan S. Hosmane	<i>New Boron-Containing Lipids and Liposomes: Preparation and Properties</i>	<i>Chem. -Euro. J.</i> 2020 , 26 , 13832- 13841
99.	Mrinal Bhunia, Sumeet Ranjan Sahoo, Arpan Das, Jasimuddin	<i>Transition Metal-Free Catalytic Reduction of Primary Amides Using an Abnormal</i>	<i>Chemical Science</i> 2020 , 11 , 1848- 1854

	Ahmed, SreejyothiP. and <u>Swadhin K. Mandal</u>	<i>NHC based Potassium Complex: Integrating Nucleophilicitywith Lewis Acidic Activation</i>	
98.	Samaresh Chandra Sau, Pradip Kumar Hota, <u>Swadhin K. Mandal</u> , Michele Soleilhavoup and GuyBertrand	<i>Stable Abnormal N-Heterocyclic Carbenes and their Applications in Catalysis</i>	<i>Chem. Soc. Rev.</i> 2020, 49, 1233-1252
97.	Zheyu Shen, Ting Liu, Zhen Yang, Zijian Zhou, Wei Tang, Wenpei Fan, Yijing Liu, Jing Mu, Ling Li, Vladimir I Bregadze, <u>Swadhin K. Mandal</u> , Anna A Druzina, Zhenni Wei, Xiaozhong Qiu, Aiguo Wu, Xiaoyuan Chen	<i>Small-sized gadolinium oxide based nanoparticles for high-efficiency theranostics of orthotopic glioblastoma</i>	<i>Biomaterials, 2020 119783.</i>
96.	Mrinal Bhunia, Sreejyothi P and <u>Swadhin K. Mandal</u>	<i>Earth-abundant metal catalyzed hydrosilylative reduction of various functional groups</i>	<i>Coord. Chem. Rev.,2020,405, 213110</i>
95.	Pradip Kumar Hota, Subir Maji, Jasimuddin Ahmed, N. M. Rajendran and <u>Swadhin K. Mandal</u>	<i>NHC-catalyzed Silylative Dehydration of Primary Amides to Nitriles at Room Temperature</i>	<i>Chem. Commun., 2020, 56, 575-578</i>
94.	Anna A. Druzina, Akim V. Shmal'ko, Ekaterina P. Andreichuk, Olga B. Zhdkova, Irina D. Kosenko, Andrey Semioshkin, Igor B. Sivaev, <u>Swadhin Mandal</u> , Zheyu Shen and Vladimir I. Bregadze	<i>'Click' synthesis of cobalt bis(dicarbollide)-cholesterol conjugates</i>	<i>Mendeleev Commun.,2019, 29, 628–630</i>

93.	Jasimuddin Ahmed, Asim Kumar Swain, R. Govindarajan, Mrinal Bhunia and <u>Swadhin K. Mandal</u>	<i>Transition metal free catalytic terminal alkyne functionalization across the C-X triple bond (X = CH, N): E-Selective dimerization under ambient conditions</i>	Chem. Commun. 2019, 55, 13860-13863
92.	Govindarajan, R; Ahmed, Jasimuddin;Swain, Asim; <u>Swadhin K. Mandal</u>	<i>Transition Metal-Free Catalytic Carboalkoxylation of Styrenes at Room Temperature</i>	J. Org. Chem. 2019, 84, 13490-13502
91.	Hari S. Das, Shyamal Das, Kartick Dey, Bhagat Singh, RahulK. Haridasan, Arpan Das and <u>Swadhin K. Mandal</u>	<i>Primary Amides to Amines or Nitriles: Dual Role by a Single Catalyst</i>	Chem. Commun. 2019, 55, 11868-11871
90.	Zheyu Shen, Wenpei Fan, Zhen Yang, Yijing Liu, Vladimir I Bregadze, <u>Swadhin K. Mandal</u> , Bryant C Yung, Lisen Lin, Ting Liu, Wei Tang, Lingling Shan, Yuan Liu, Shoujun Zhu, Sheng Wang, Weijing Yang, L Henry Bryant, Duong T Nguyen, Aiguo Wu, Xiaoyuan Chen	<i>Exceedingly Small Gadolinium Oxide Nanoparticles with Remarkable Relativities for Magnetic Resonance Imaging of Tumors</i>	Small, 2019, 15, 1903422
89.	ArpanDas, Pradip Kumar Hota, and <u>Swadhin K. Mandal</u>	<i>Nickel Catalyzed C(sp₂)-H Borylation of Arenes</i>	Organometallics, 2019, 38, 3286-3293
88.	Das, Shyamal; Das, Hari; Singh, Bhagat; Haridasan, Rahul; Das, Arpan; <u>Mandal, Swadhin</u>	<i>Catalytic Reduction of Nitriles by Polymethylhydrosiloxane Using a Phenalenyl Based Iron (III) Complex</i>	Inorg. Chem., 2019, 58, 11274-11278

87.	<p>Nimish Gupta, Aasif Ansari, Gaurao V Dhoke, Maheshwerreddy Chilamari, Jwala Sivaccumar, Smita Kumari, Snigdha Chatterjee, Ravinder Goyal, Mallik Samarla, Madhumita Mukherjee, Arindam Sarkar, <u>Swadhin K Mandal</u>, Vishal Rai, Goutam Biswas, Aniruddha Sengupta, Monideepa Roy, Sudip Roy, Shiladitya Sengupta</p>	<p><i>A Multivalent and Affinity-Guided Antibody Empowerment Technology (MAGNET) Platform to Engineer Antibody-Drug Conjugates for Targeting Cancer</i></p>	<p><i>Nature Biomed. Eng.</i> 2019, 3, 917–929</p>
86.	<p>Pradip Kumar Dutta, Rupali Sharma, Smita Kumari, Ravindra Dhar Dubey, Sujit Sarkar, Justin Paulraj, Gonela Vijaykumar, Manoj Pandey, L Sravanti, Mallik Samarla, Hari Sankar Das, B Heeralal, Ravinder Goyal, Nimish Gupta, <u>Swadhin K Mandal</u>, Aniruddha Sengupta, Arindam Sarkar</p>	<p><i>A safe and efficacious Pt (ii) anticancer prodrug: design, synthesis, in vitro efficacy, the role of carrier ligands and in vivo tumor growth inhibition</i></p>	<p><i>Chem. Commun.</i> 2019, 55, 1718–1721</p>
85.	<p>Mrinal Bhunia; Sumeet Ranjan Sahoo; Bikash Kumar Shaw; Anand Pariyar; Gonela Vijaykumar; S. Vaidya; Debasish Adhikari; <u>Swadhin K. Mandal</u></p>	<p><i>Storing Redox Equivalent in the Phenalenyl Backbone Towards Multielectron Reduction</i></p>	<p><i>Chemical Science</i> 2019, 10, 7433–7441</p>
84.	<p>Gonela Vijaykumar; Mrinal Bhuniaa and <u>Swadhin K. Mandal</u></p>	<p><i>Phenalenyl-based Nickel Catalyst for Hydroboration of</i></p>	<p><i>Dalton Trans.,</i> 2019, 48, 5779–5784</p>

<p style="text-align: center;"><i>Olefins under Ambient Conditions</i></p>			
83.	Samaresh Chandra Sau; Rameswaran Bhattacharjee; Pavan K Vardhanapu; Pradip Kumar Hota; G Vijaykumar; R. Govindarajan; Ayan Datta; Swadhin K. Mandal.	<i>Metal-Free Capture of CO₂ from Air and its Reduction into Alternative Fuel under Ambient Conditions</i>	Chemical Science 2019, 10, 1879-1884.
82.	Pavan Vardhanapu; Jasimuddin Ahmed; Anex Jose; Bikash Shaw; Tamal Sen; Amita Mathews; Swadhin K. Mandal.	<i>Phenalenyl based Aluminum Compound for Catalytic C-H Arylation of Arene and Heteroarenes at Room Temperature</i>	J. Org. Chem., 2018, 84, 289-299.
81.	Pradip K. Hota; Samaresh C. Sau; Swadhin K. Mandal	<i>Metal-Free Catalytic Formylation of Amides Using CO₂ under Ambient Conditions</i>	ACS Cat. 2018, 8, 11999-12003.
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79.	Bhagat Singh; Rupankar Paira; Goutam Biswas; Bikash K. Shaw; Swadhin K. Mandal	<i>Graphene Oxide-Phenalenyl Composite: Transition Metal-Free Recyclable and Catalytic C-H Functionalization</i>	Chem. Commun. 2018, 54, 13220-13223.
78.	Soumi Chakraborty, Jasimuddin Ahmed, Bikash Kumar Shaw, Anex Jose, and Swadhin K. Mandal.	<i>Iron Based Long-Lived Catalyst for Direct C-H Arylation of Arenes and Heteroarenes</i>	Chem. Eur. J. 2018, 24, 1-6.

77.	Sreejyothi P, Samaresh C. Sau, Pavan Vardhanapu, <u>Swadhin K Mandal</u>	<i>A Halobridged Abnormal NHC Palladium(II) Dimer for Catalytic Dehydrogenative Cross-Coupling Reactions of Heteroarenes</i>	<i>J. Org. Chem.</i> 2018, 83, 9403–9411
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74.	Ananya Banik, Rupankar Paira, Bikash Shaw, Gonela Vijaykumar and <u>Swadhin K Mandal</u>	<i>Accessing Heterobiaryls through A Transition Metal-Free C-H Functionalization</i>	<i>J. Org. Chem.</i> 2018, 83, 3236–3244.
73.	Anex Jose Gonela Vijaykumar, Vardhanapu, Pavankumar, and <u>Swadhin K Mandal</u>	<i>Abnormal NHC Supported Palladacycles: Regioselective Arylation of Heteroarenes via Decarboxylation</i>	<i>J. Organomet. Chem.</i> 2018, 865, 51–57
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71.	Gonela Vijaykumar, Anex Jose, Vardhanapu Pavankumar and <u>Swadhin K Mandal</u>	<i>Abnormal N-Heterocyclic Carbene Based Nickellacycles: Unprecedented Catalysts for Hydroheteroarylation of Vinyl Arenes</i>	<i>Organometallics,</i> 2017, 36, 4753–4758.
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Book Chapter

Swadhin K. Mandal and Herbert W. Roesky “Designing Molecular Catalysts Based on Enhanced Lewis Acidity” *Adv. Cat.* **54**, 2011, 1- 61, Editors: Bruce C. Gates (Series Editor), Helmut Knoezinger (Series Editor), Friederike C. Jentoft (Series Editor), academic press.

Patents Granted

Patent Name	Patent Holders	Year	Indian Application/International Application No.	International Application No.
Abnormal N-heterocyclic Carbene Copper(1) Complexes, Synthesis and Applications Thereof	<u>Mandal, S. K.</u> and Sau, S. Ch.	2013	Indian Patent Application No. 1042/KOL/2013 (Filed on: 06/09/2013)	Indian Patent No. 338890; Granted on: 19/06/2020
Lipid Based Platinum N- heterocyclic Compounds and Nanoparticles	Sarkar, A.; <u>Mandal, S. K.</u>	2014	US2016/0122377	US Patent No 10017531, Granted on 10 th July, 2018