



| | |
|---|---|
| Title: | Aromatization as the driving force for single electron transfer towards C–C cross-coupling reactions |
| Authors: | Dey, Dhananjay (/jspui/browse?type=author&value=Dey%2C+Dhananjay)<br>Kundu, Abhishek (/jspui/browse?type=author&value=Kundu%2C+Abhishek)<br>Roy, Monojit (/jspui/browse?type=author&value=Roy%2C+Monojit)<br>Pala, Subhankar (/jspui/browse?type=author&value=Pala%2C+Subhankar)<br>Adhikari, Debashis (/jspui/browse?type=author&value=Adhikari%2C+Debashis) |
| Keywords: | Aromatization as the driving force<br>single electron transfer<br>C–C cross-coupling reactions |
| Issue Date: | 2022 |
| Publisher: | Royal Society of Chemistry |
| Citation: | Catalysis Science and Technology, 12(6), 1934-1940. |
| Abstract: | There is a strong current interest in C–H functionalization reactions under metal-free conditions. We report herein the deprotonated form of dihydrophenazine (DPh) as a potent initiator under photochemical conditions that can efficiently generate aryl radicals via single electron transfer (SET). The driving force for such electron transfer is the gain in aromaticity for the initiator molecule. Using this methodology, a series of arenes and heteroarenes have been cross-coupled with aryls at room temperature. Photochemical activation of DPh anions and the subsequent electron transfer to substrate aryldiazonium salts have been proved by Stern–Volmer kinetic analysis. Detailed mechanistic studies including interception of important reaction intermediates prove the aromaticity-driven SET as the key step to generate aryl radicals towards radical-promoted cross-coupling reactions. |
| Description: | Only IISER Mohali authors are available in the record. |
| URI: | https://doi.org/10.1039/d1cy02229f (https://doi.org/10.1039/d1cy02229f)<br>http://hdl.handle.net/123456789/4982 (http://hdl.handle.net/123456789/4982) |
| Appears in Collections: | Research Articles (/jspui/handle/123456789/9) |

Files in This Item:

| File | Description | Size | Format | |
|---|---|---|---|---|
| Need To Add…Full Text_PDF. (/jspui/bitstream/123456789/4982/1/Need%20To%20Add%e2%80%a6Full%20Text_PDF.) | | 15.36 kB | Unknown | View/Open (/jspui/l |

Show full item record (/jspui/handle/123456789/4982?mode=full)
(/jspui/handle/123456789/4982/statistics)