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Title:	Deciphering the single electron transfer ability of fluorene under photoredox conditions
Authors:	Dey, Dhananjay (/jspui/browse?type=author&value=Dey%2C+Dhananjay) Kundu, Abhishek (/jspui/browse?type=author&value=Kundu%2C+Abhishek) Mandal, Baishanal (/jspui/browse?type=author&value=Mandal%2C+Baishanal) Roy, Monojit (/jspui/browse?type=author&value=Roy%2C+Monojit) Adhikari, Debashis (/jspui/browse?type=author&value=Adhikari%2C+Debashis)
Keywords:	Deciphering the single electron fluorene under photoredox
Issue Date:	2022
Publisher:	Royal Society of Chemistry
Citation:	Catalysis Science and Technology, 12(24), 7322-7327.
Abstract:	Herein we report fluorene as a radical initiator in its deprotonated form, to promote single electron transfer (SET) under photochemical conditions, leading to C–C cross-coupling reactions. A thorough mechanistic trial including the Stern–Volmer experiment reveals the photoinduced electron transfer. Multiple key species en route to electron transfer have been isolated or separately synthesized to emphasize the radical amplifying effect of fluorene by offering an initiation mechanistic network, rather than a unique single initiation pathway. The radical initiator is further different from the bulk of previous work as hydrocarbons have not been examined to enable electron transfer at their deprotonated state. The efficiency of SET is demonstrated by a plethora of C–C cross-coupling reactions spanning benzene, pyrrole and thiophene as arene substrates.
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