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Photoinduced activation of arene C-H bonds with (η^5 -cyclopentadienyl)-trimethylplatinum(IV): A possible role of CpPtR₂H

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Abstract

(η^5 -Cyclopentadienyl)trimethylplatinum(IV) reacts with ArMe arenes rather than alkanes or benzene under heating to 150 °C in the dark or under irradiation with light at room temperature by a radical mechanism to produce (η^5 -cyclopentadienyl)dimethyl(arylmethyl)platinum(IV) complexes, and the expected complex CpRR₂(H) is unstable under the reaction conditions, as found by the reduction of CpRMe₂I with complex metal hydrides.
