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Preliminary communication

Jackson–Meisenheimer complexes in reactions of organomercury compounds with trinitrobenzene

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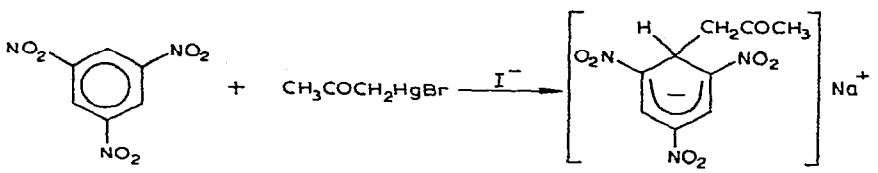
We have found that organomercury compounds, R_2Hg and RHgX, with electron-withdrawing groups react with trinitrobenzene (TNB) under conditions of iodide ion catalysis and that Jackson–Meisenheimer complexes are formed in this reaction which is a novel reaction in the organomercury series. We have also shown that $(CH_3COCH_2)_2Hg$ and CH_3COCH_2HgBr form Janowsky complexes[1] with TNB in the presence of I^- in deuteroacetone or dimethylsulfoxide (τ 8.37, singlet; 5.10, triplet; 2.60, doublet)



Organomercury compounds, R_2Hg and RHgX, which have electron–withdrawing substituents [R = C_6F_5, PhC≡C, $(CF_3)_2CH$, $C_6H_5CHCOOC_2H_5$, *o*-carboranyl] react, while $(C_6H_5)_2Hg$ and Alk_2Hg do not react with TNB under these conditions. We think that the first step of the reaction is ionisation of the organomercury compound accompanied by C–Hg bond rupture[2] [$S_E1(I^-)$], with subsequent interaction of the kryptocarbanion formed with TNB, the latter step probably involves a single electron transfer. Studies of the reaction mechanism are in progress.

REFERENCES

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2 I.P. Beletskaya, K.P. Butin and O.A. Reutov, *Organometal. Chem. Rev.*, 7 (1971) 51.