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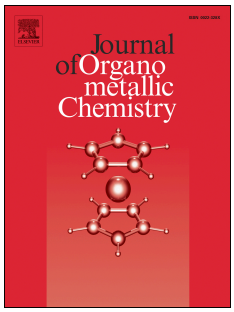

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Synthesis and properties of Fischer carbene complexes of *N*,*N*-dimethylaniline and anisole π-coordinated to chromium tricarbonyl

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KEYWORDS

Fischer carbene complexes; heterobi- and –trimetallic complexes; X-ray crystallography; (spectro)electrochemistry; quantum chemical calculations.

ABSTRACT

The reaction of lithiated N,N-dimethylaniline π-coordinated to $Cr(CO)_3$ with $W(CO)_6$ and alkylation with $[Et_3O][BF_4]$ afforded the *o*-, *m*- and *p*-isomers of the σ,π-bimetallic complexes $\{\eta^6\text{-}Me_2NC_6H_4C(OEt)W(CO)_5\}Cr(CO)_3$ (*o*-, **1**, *m*-, **2** and *p*-isomer, **3**). A by-product of the reaction is found by the substitution of a carbonyl ligand in **1** by the aniline nitrogen atom to give $\{\eta^6\text{-C,N-}o\text{-}Me_2NC_6H_4C(OEt)W(CO)_4\}Cr(CO)_3$ (**4**). As a result, the W-chelate ring dominates