Molecular Structure and Reactivity of Tri(1-cyclohepta-2,4,6-trienyl)amine, $N(C_7H_7)_3$

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Compared with the tertiary phosphane $P(C_7H_7)_3$ (**1**), the amine $N(C_7H_7)_3$ (**2**) possesses the structure of a flattened trigonal pyramid with a sum of CNC angles of 350.0° (*cf.* 300.2° (av.) in **1**). The heteroatom (with the lone pair) is situated 27.0 pm above the C_3 basal plane in **2**, but 86.4 pm in **1**. The amines $N(C_7H_7)_3$ (**2**), $NH(C_7H_7)_2$ (**2a**) and $N(Ph)(C_7H_7)_2$ (**2b**) react with tropylium tetrafluoroborate, $[C_7H_7]BF_4$, to give N-tropylidene-(1-cyclohepta-2,4,6-trienyl)-immonium tetrafluoroborates, $[(C_7H_6)N(R)(C_7H_7)]BF_4$ **3** (R = H, from **2** and **2a**), **4** (R = Ph, from **2b**), which have been characterized by their IR and NMR (^1H, ^{13}C) spectra.

Key words: Cyclohepta-2,4,6-trienyl Amines, Tropylium Tetrafluoroborates, X-Ray