Observation of Covalent and Electrostatic Bonds in Nitrogen-Containing Polycyclic Ions Formed by Gas Phase Reactions of the Benzene Radical Cation with Pyrimidine

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## **Supplementary Information**



**Figure S1.** Lack of ligand exchange reactions of the  $(C_6H_6.C_4H_4N_2)^{++}$  dimer injected into  $C_6D_6$ /He at the pressures and temperatures as indicated. Ligand exchange could yield  $(C_6D_6.C_6H_6)^{++}$  (m/z 162) or  $(C_4H_4N_2.C_6D_6)^{++}$  (m/z 164) which are not observed.



**Figure S2**: Stability of the  $(C_6H_6,C_4H_4N_2)^{++}$  dimer against collisional dissociation upon injection into the mobility cell. Mass Spectra show no fragmentation at the injection energies (I.E) indicated (lab frame).