Reactions of Cationic Transition Metal Acetonitrile Complexes $[M(CH_3CN)_n]^{m+}$ with GaCp*: Novel Gallium Complexes of Iron, Cobalt, Copper and Silver.

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Supporting Information

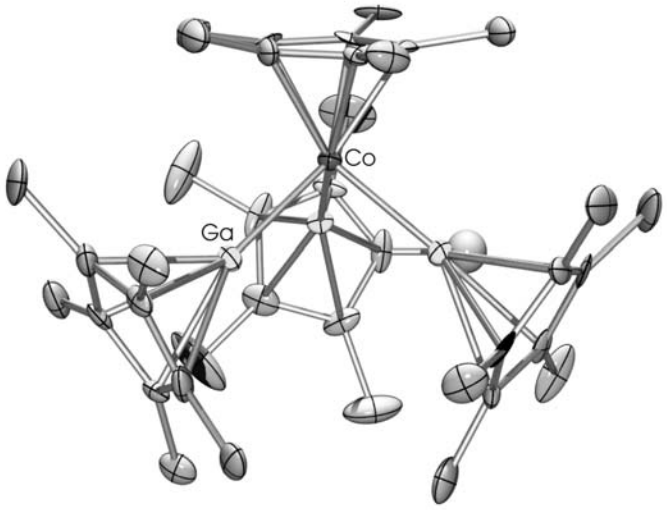

Fig. 1 Molecular structure of the cationic part $[Cp^*Co(GaCp^*)_3]^{2+}$ (**2**) as determined by single crystal X-ray crystallography (thermal ellipsoids are shown at the 30% probability level, hydrogen atoms have been omitted for clarity). Selected bond lengths (Å) and angles (°): Co(1)-Ga(1) 2.3168(16), Co(1)-Ga(2) 2.2798(13), Co(1)-Ga(3) 2.2935(13), Co(1)-$Cp^*_{centroid}$ 1.698, Ga(1)-$Cp^*_{centroid}$ 1.907, Ga(2)-$Cp^*_{centroid}$ 1.872, Ga(3)-$Cp^*_{centroid}$ 1.900, Ga(1)-Co(1)-$Cp^*_{centroid}$ 123.78, Ga(3)-Co(1)-$Cp^*_{centroid}$ 123.33, Co(1)-Ga(1)-$Cp^*_{centroid}$ 172.71, Co(1)-Ga(3)-$Cp^*_{centroid}$ 172.50, Ga(1)-Co(1)-Ga(3) 93.11(5), Ga(2)-Co(1)-Ga(3) 91.48(5).

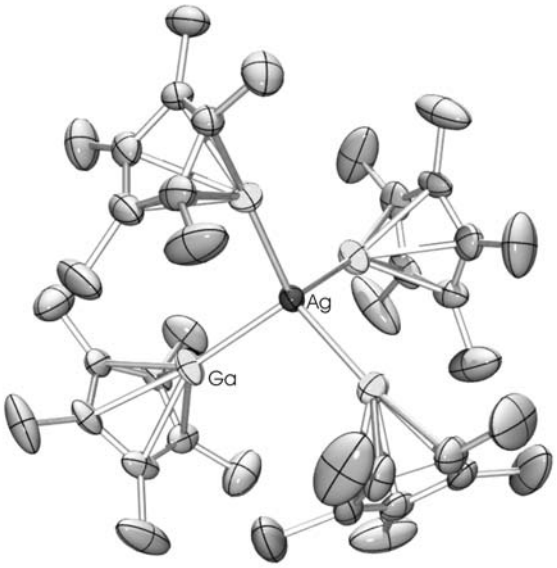

Fig. 2 Molecular structure of the cationic part $[Ag(GaCp^*)_4]^+$ (**5**) as determined by single crystal X-ray crystallography (thermal ellipsoids are shown at the 30% probability level, hydrogen atoms have been omitted for clarity). Selected bond lengths (Å) and angles (°):Ag(1)-Ga(1) 2.5153(5), Ag(1)-Ga(2) 2.5279(5), Ag(1)-Ga(3) 2.5232(6), Ag(1)-Ga(4) 2.5114(5), Ga(1)-$Cp^*_{centroid}$ 1.932, Ga(2)-$Cp^*_{centroid}$ 1.946, Ga(3)-$Cp^*_{centroid}$ 1.953, Ga(4)-$Cp^*_{centroid}$ 1.942, Ga(1)-Ag(1)-Ga(2) 109.08(2), Ag(1)-Ga(3)-$Cp^*_{centroid}$ 158.29.

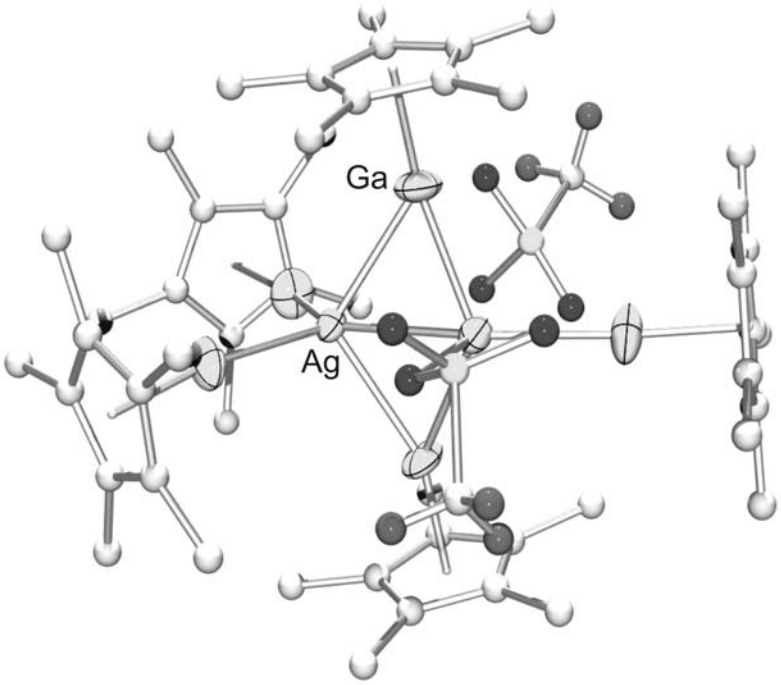

Fig. 3 Molecular structure of $[Ag_2(GaCp^*)_5][CF_3SO_3]_2$ (**6**) as determined by single crystal X-ray crystallography (thermal ellipsoids are shown at the 30% probability level, hydrogen atoms have been omitted for clarity).