STRUCTURES AND SOLVATION EFFECTS OF $[Fe(CO_2)_n]^-$ CLUSTER ANIONS

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We present infrared photodissociation spectra of $[Fe(CO_2)_n]^-$ $(n = 3 - 7)$ cluster anions. We use density functional theory to compare calculated vibrational frequencies to our experimental spectra to determine plausible structures for the molecular charge carriers. The spectra display similar characteristics to those of other complexes of first-row transition metals with CO_2 ligands, and show signatures of several structural motifs.