

# **COPPER COMPLEXES OF HIGHLY FLUORINATED PYRAZOLATES**

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Trinuclear copper(I) complexes supported by fluorinated pyrazolates are of significant interest due to their extended structures with cuprophilic  $d^{10}$ - $d^{10}$  interactions, catalytic activities, and fascinating photo-physical properties. They also feature quite Lewis acidic copper sites and interact with electron rich arenes forming sandwiched structures while retaining the trinuclear copper-cores. Some of the more highly fluorinated copper pyrazolates even react with small carbon-based gases such CO and ethylene producing isolable, dinuclear copper complexes. These reactions are often reversible under mild conditions. We have exploited this chemistry to separate olefins selectively from olefin-paraffin mixtures. Several highlights from recent past and new developments involving highly fluorinated copper pyrazolates will be presented.