Investigating the Ties That Bind

Metals often work in pairs in enzymes (nature's chemical catalysts), accelerating tardy reactions to make life possible. Researchers using the ChemMatCARS 15-ID crystallography facility at the Advanced Photon Source investigated the bonds that form between pairs of metals including cobalt, iron, and manganese. Their findings could help us better understand how bimetallic enzymes work and how to copy their chemistry in industrial catalysts for making pharmaceuticals and agrochemicals more efficiently, trapping greenhouse gases such as carbon dioxide from the atmosphere, or degrading toxic chemicals. Bimetallic clusters may also have useful magnetic properties for applications in electronics and computing, such as magnetic data storage.


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