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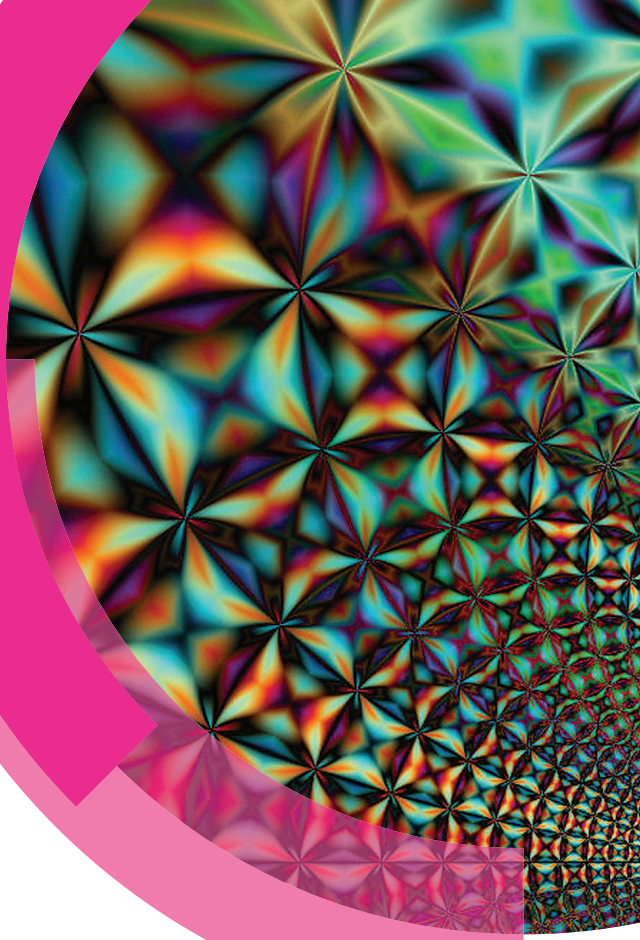

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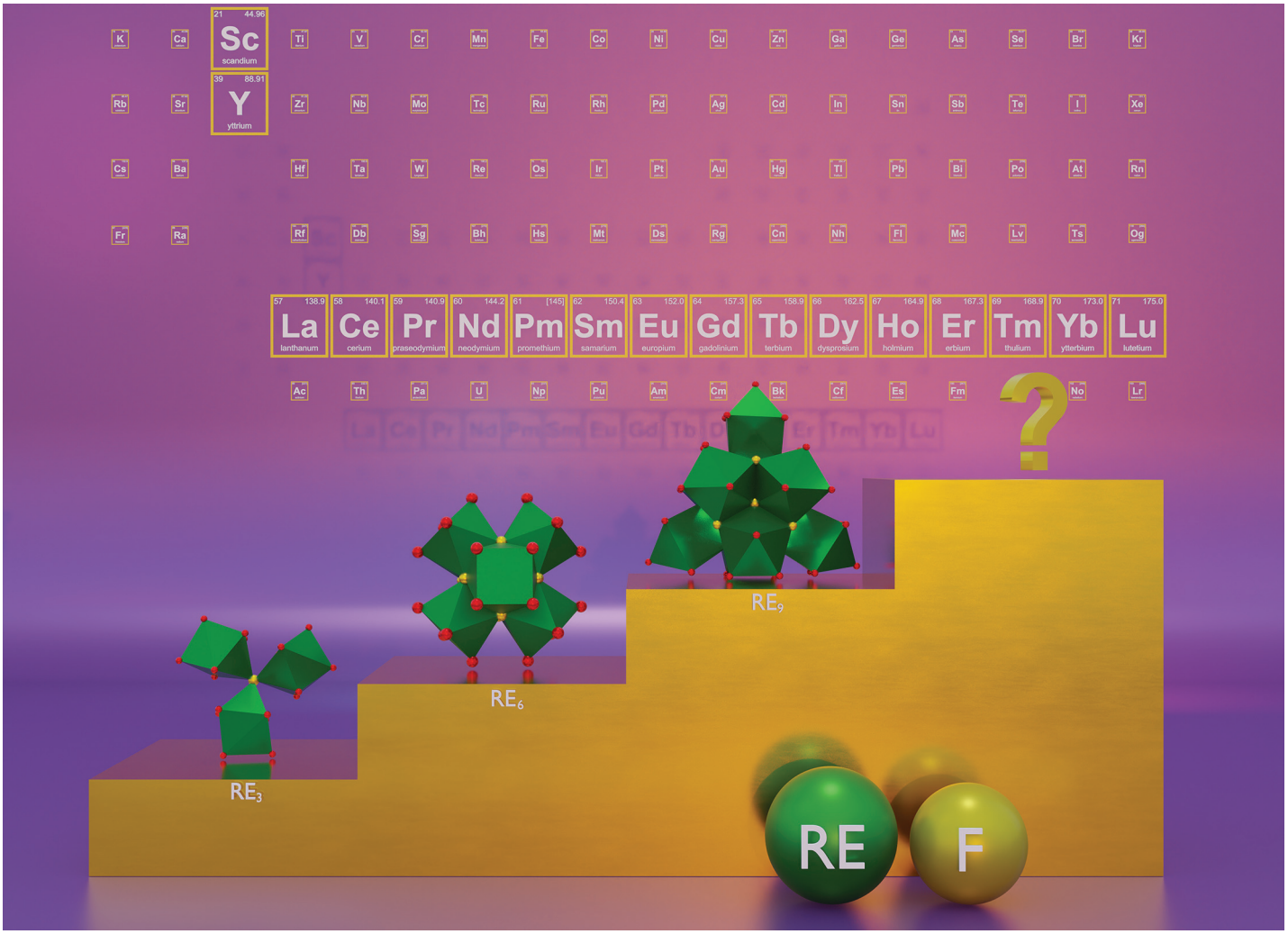

Showcasing research from Professor Balkus' laboratory, Department of Chemistry and Biochemistry, The University of Texas at Dallas, Richardson, Texas USA.

Fluoro-bridged rare-earth metal–organic frameworks

Rare-earth metal–organic frameworks (MOFs) offer unique optical, electronic, and magnetic properties. We recently discovered that fluorine can be extracted from various organic molecules to form fluoro-bridged MOFs. The most common fluorinated clusters include triclusters, hexaclusters and nonaclusters. The key feature in all these clusters is μ_3-F bridging, which was previously thought to be μ_3-(OH) bridging. In the absence of organic linkers, the RE ions make metal fluorides. Knowledge of the properties and applications of fluoro-bridged RE-MOFs is just starting to emerge. A better understanding of what drives the formation of different sizes of clusters will allow for more directed synthesis of the desired MOFs as well as the formation of higher nuclearity clusters.

As featured in:

See Kenneth J. Balkus *et al.*, *Dalton Trans.*, 2024, **53**, 3445.

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