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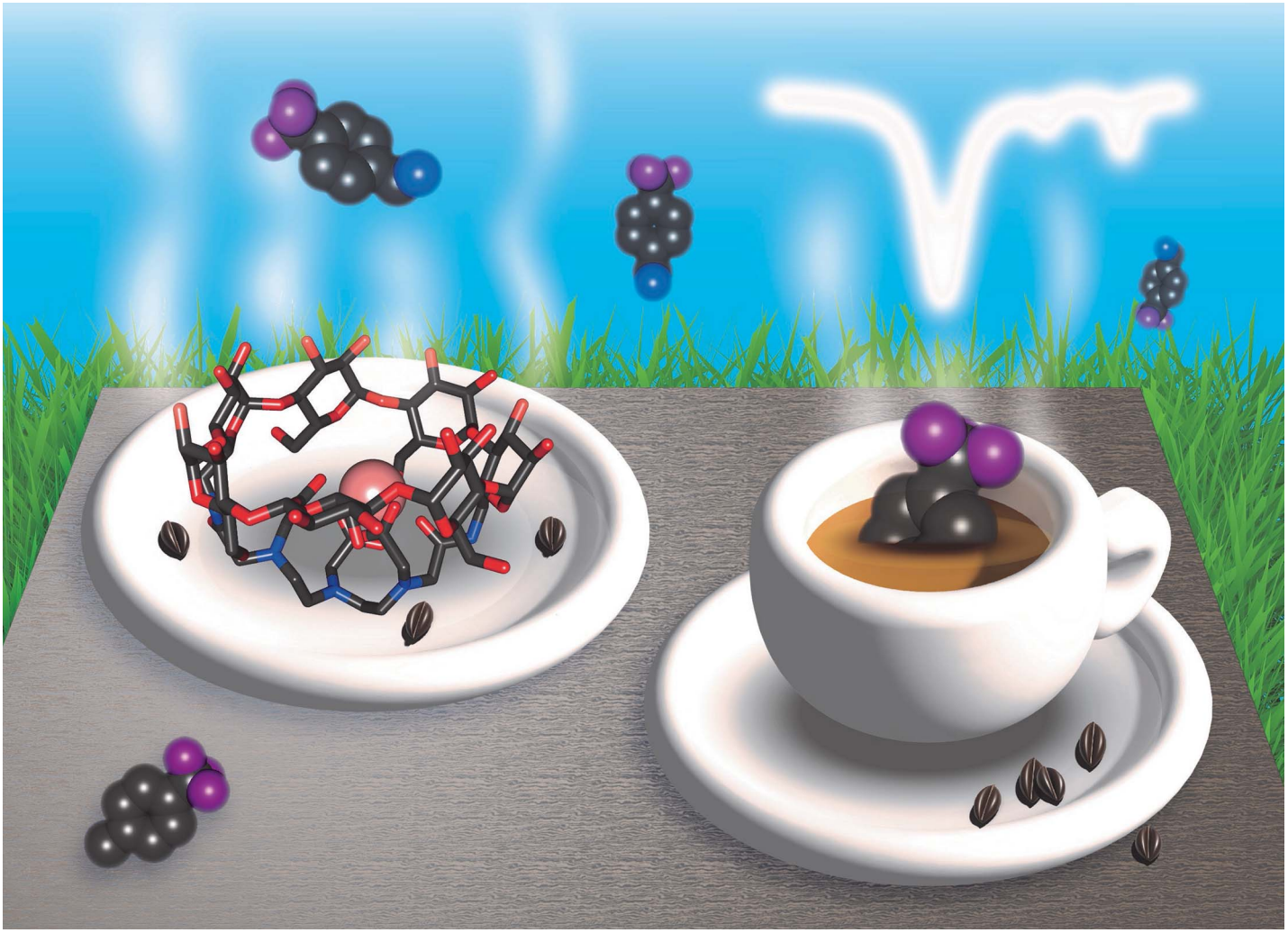

Showcasing research from Professor Amnon Bar-Shi's laboratory, Department of Molecular Chemistry and Materials Science, Weizmann Institute of Science, Rehovot, Israel.

NMR exchange dynamics studies of metal-capped cyclodextrins reveal multiple populations of host–guest complexes in solution

The guest exchange saturation transfer GEST NMR method was used to study exchange dynamics in systems composed of Ln-α-CDs or Ln-β-CDs with different guests, revealing multiple co-existing populations of host-guest complexes exclusively in solutions containing Ln-β-CDs. The enhanced spectral resolution of paramagnetic GEST (paraGEST), achieved by a strong pseudo contact shift induction of lanthanides, revealed that molecular guests could adopt multiple orientations within Ln-β-CDs' cavities, and in contrast, only a single orientation inside Ln-α-CDs. We concluded that paraGEST is a convenient tool for studying additional supramolecular systems of metal-capped molecular hosts.

As featured in:

See Amnon Bar-Shir *et al.*, *Chem. Sci.*, 2023, **14**, 11351.

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