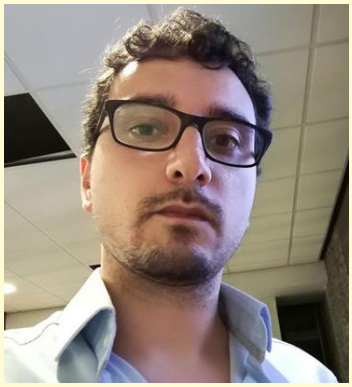
CoffeeTalk@ISOF

virtual edition

Ethereal Love: Promoting ring-ring interactions in a [3]rotaxane



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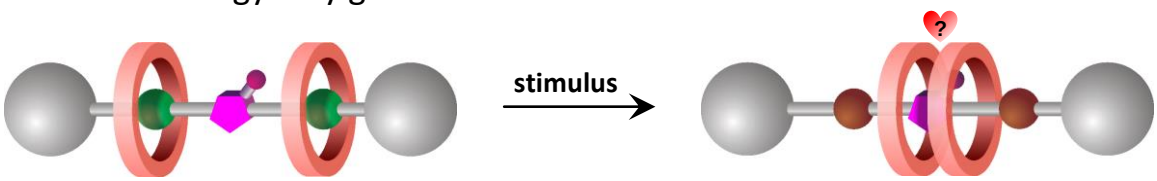
The mechanical interlocking of molecular components can lead to unconventional properties, with potential for applications in materials science. Rotaxanes are mechanically interlocked molecules composed of a macrocycle threaded through an axle and blocked by bulky groups. We developed a rotaxane system in which the number of recognition sites available on the axle can be varied by external inputs, encompassing cases in which it is larger, equal or smaller than the number of interlocked macrocycles. In the last case two crown ether rings compete for a single recognition site but can also come together to share it, suggesting that the need to minimize free energy may give birth to 'ethereal love'.



Tuesday 23 March 2021, 14:30

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