



Showcasing research from Professor Kitagawa's laboratory,  
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Stacked-ring aromaticity from the viewpoint of the effective  
number of  $\pi$ -electrons

High-level quantum chemical calculations combined with  
a multi-configurational wavefunction analysis for closely  
stacked  $\pi$ -dimers of antiaromatic molecules have revealed  
that the appearance of the double-triplet [ $(T_1T_1)$ ] character  
is critical to connecting the stacked-ring aromaticity  
concept with Baird's rule. Unpaired electrons derived from  
the  $T_1$ -like Baird-aromatic monomers contribute to the  
formation of intermolecular double bonds through the  
increased contribution of intermolecular charge-transfer (CT)  
configurations in the ground state of the  $\pi$ -dimers.

As featured in:



See Ryota Sugimori, Kenji Okada,  
Ryohei Kishi and Yasutaka Kitagawa,  
*Chem. Sci.*, 2025, **16**, 1707.