

EES Catalysis

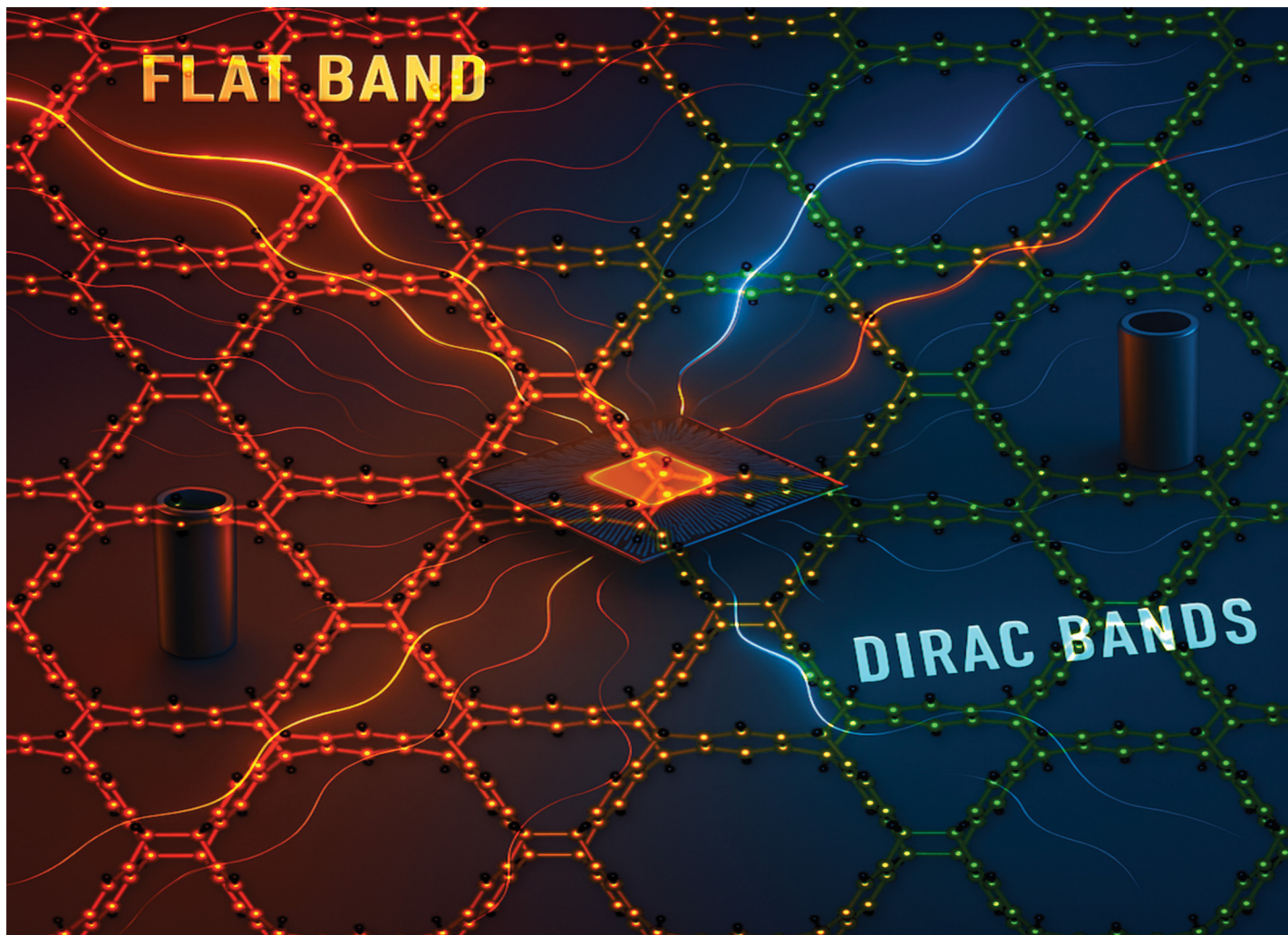
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**Fundamental questions
Elemental answers**



Showcasing research from Professor Holger Bettinger's laboratory, Institut für Organische Chemie, Eberhard Karls Universität Tübingen, Germany.

Cyclacene-derived carbon lattices with distorted hexagonal tiling and in-plane π -orbitals: coexistence of flat and Dirac bands

Cyclacene-based carbon lattices form a novel class of quasi-2D materials with distorted hexagonal tiling and in-plane π orbitals. DFT calculations reveal tunable band gaps, coexisting flat and Dirac bands near the Fermi level, and dominant p_x/p_y orbital character. These unconventional electronic features open avenues for correlated electron physics and nanoelectronics.

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As featured in:



See Holger F. Bettinger *et al.*, *Mater. Adv.*, 2025, **6**, 5439.