

Möbius aromaticity

A monocyclic array of orbitals in which there is a single out-of-phase overlap (or, more generally, an odd number of out-of-phase overlaps) reveals the opposite pattern of *aromatic* character to Hückel systems; with $4n$ electrons it is stabilized (aromatic), whereas with $4n + 2$ it is destabilized (antiaromatic). In the excited state $4n + 2$ Möbius π -electron systems are stabilized, and $4n$ systems are destabilized. No examples of ground-state Möbius π -systems are known, but the concept has been applied to *transition states* of *pericyclic reactions* [see *aromatic* (3)].

The name is derived from the topological analogy of such an arrangement of orbitals to a Möbius strip.

See also *Hückel ($4n + 2$) rule*.

1994, 66, 1141