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Nuclear spin-induced optical rotation of functional groups in hydrocarbons

This article discusses the relationship between molecular structure and nuclear spin-induced optical rotation (NSOR) in hydrocarbons. NSOR is an optical rotation caused by oriented nuclear spins when a linearly polarized light beam passes through a substance. In this work, it is demonstrated that the NSOR effect is systematically related to the molecular structure of hydrocarbons, such that particular moieties exhibit characteristic angles of rotation. The distinct optical rotation by different chemical groups opens possibilities to develop a new form of spectroscopy sensitive to molecular structure, based on NSOR.

As featured in:



See Petr Štěpánek,
Phys. Chem. Chem. Phys.,
2020, **22**, 22195.