

## Publication

## Circularly Polarized Luminescence in a Möbius Helicene Carbon Nanohoop

**JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 4659237**Author(s)** Malinčík, Juraj; Gaikwad, Sudhakar; Mora-Fuentes, Juan P.; Boillat, Marc-Aurèle; Prescimone, Alessandro; Häussinger, Daniel; Campaña, Araceli G.**Author(s) at UniBasel** [Häussinger, Daniel](#) ; [Malincik, Juraj](#) ; [Boillat, Marc-Aurèle](#) ; [Prescimone, Alessandro](#) ;**Year** 2022**Title** Circularly Polarized Luminescence in a Möbius Helicene Carbon Nanohoop**Journal** Angewandte Chemie International Edition**Volume** 61**Number** 37**Pages / Article-Number** e202208591**Keywords** Chirality; Circularly Polarized Luminescence; Cycloparaphenylenes; Helicenes; Molecular Nanocarbons; Möbius Topology**Mesh terms** Carbon; Luminescence; Polycyclic Compounds, chemistry; Stereoisomerism

We present the first helicene carbon nanohoop that integrates a [6]helicene into [7]cycloparaphenylene. The [6]helicene endows the helicene carbon nanohoop with chiroptical properties and configurational stability typical for higher helicenes, while the radially conjugated seven para-phenylenes largely determine the optoelectronic properties. The structure of the helicene carbon nanohoop was unambiguously characterized by NMR, MS and X-ray analysis that revealed that it possesses a topology of a Möbius strip in the solid state and in solution. The chirality transfers from the [6]helicene to the para-phenylenes and leads to a pronounced circular dichroism and bright circularly polarized luminescence, which is affected by the structural topology of the nanohoop.

**Publisher** Wiley**ISSN/ISBN** 1433-7851 ; 1521-3773**edoc-URL** <https://edoc.unibas.ch/92611/>**Full Text on edoc** Available;**Digital Object Identifier DOI** 10.1002/anie.202208591**PubMed ID** <http://www.ncbi.nlm.nih.gov/pubmed/35856293>**ISI-Number** 000835798500001**Document type (ISI)** Journal Article