

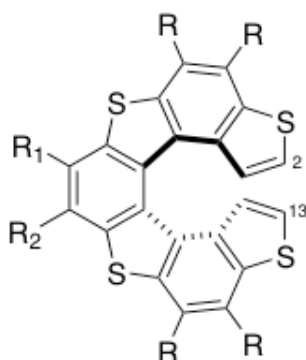
TETRATHIAHELICENES: A NEVER-ENDING RESEARCH

Silvia Cauteruccio, Emanuela Licandro

Dipartimento di Chimica, Università degli Studi di Milano, Via C. Golgi, 19 I-20133 Milan (Italy)

e-mail: emanuela.licandro@unimi.it

Helicenes are intrinsically chiral *ortho*-annulated (hetero)aromatic rings having screw-shaped structures. These curved organic systems represent an intriguing class of π -molecules that provide unique opportunities for applications in a wide range of areas, including materials sciences, chiroptical devices, and asymmetric synthesis.¹ Among helicenes, thiahelicenes are unique thanks to the presence of thiophene rings, which confer special chemical, geometric, and electronic features.² During the years, we have contributed to the set up of synthetic methodologies and functionalization of tetrathiahelicene (7-TH) derivatives (Figure 1), a class of configurationally stable heterohelicenes, potentially very interesting for applications in optoelectronics,³ catalysis,⁴ and biology.⁵ These systems can be easily functionalized at the 2 and 13 positions of the two terminal thiophene rings, allowing the modulation of the chemical and physical properties.



Tetrathiahelicenes (7-TH)

Figure 1

References

- [1] Y., Shen; C.-F., Chen *Chem. Rev.* **2012**, *112*, 1463-1535.
- [2] E., Licandro; S., Cauteruccio; D., Dova *Adv. Heterocycl. Chem.* **2016**, *118*, 1-46.
- [3] E., Licandro; S., Maiorana; C., Rigamonti; S., Righetto; G. R., Stephenson; M., Spassova; E., Botek; B., Champagne *J. Phys. Chem. C* **2008**, *112*, 7900-7907.
- [4] P., Aillard; A., Voituriez; D., Dova; S., Cauteruccio; E., Licandro; A., Marinetti *Chem.-Eur. J.* **2014**, *20*, 12373-12376.
- [5] S., Cauteruccio; C., Bartoli; C., Carrara; D., Dova; C., Errico; G., Ciampi; D., Dinucci; E., Licandro; F., Chiellini *Chem. Plus. Chem.* **2015**, *80*, 490-493.