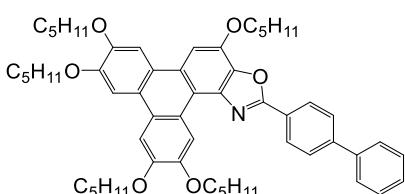


TpOx-*p*-BiPh

TpOx-*p*-BiPh is a UV excitable fluorescent material with a polycyclic aromatic donor-acceptor structure where the triphenoxazazole core acts as a donor and the aromatic group on the two position of the oxazole (4-phenyl-phenyl) act as the acceptor group. The push-pull, donor-acceptor, structure facilitates intramolecular charge transfer in the excited state that results in a 220 nm emission Stokes Shift. TpOx-*p*-BiPh is also a photo-conducting Discotic Liquid Crystalline (DLC) material with mesophase transition onset temperature of 123°C. TpOx-*p*-BiPh is designed for 355 nm and 405 nm excitation with emission at 490 nm with quantum yield of 0.61, high thermal, chemical and photostability. TpOx-*p*-BiPh has potential uses in fluorescent dye staining, organic electronics and photonics, and imaging applications.

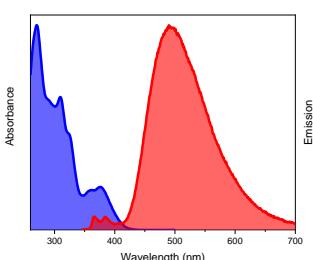
Chemical Structure



Chemical Data

- Catalogue Number: 923036
- Other Name: TpOx-*p*-BiPh, CT 490 11 032 01 01
- CAS #: 2612025-67-7
- Molecular Formula: C₅₆H₆₉NO₆
- Molecular Weight: 852.17

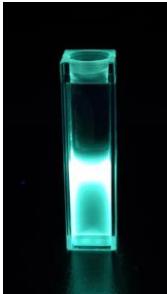
Absorbance and Emission spectra in Ethyl Acetate



Photophysical Data

- In Solvent: EtOAc
- Abs λ_{max} (nm) = 270
- Emis λ_{max} (nm) = 490
- pSS (nm) = 220
- ϵ (M⁻¹ cm⁻¹) at Abs λ_{max} = 125,000
- Quantum Yield (Φ) = 0.61
- Fluorescence Lifetime (ns) = 7.07

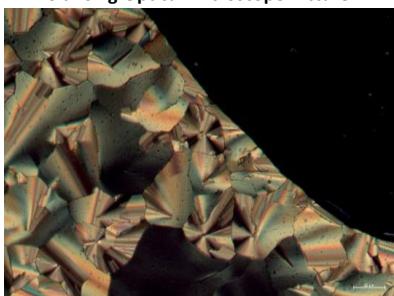
Fluorescence Emission



Material Data

- Physical State: Crystal Powder
- Appearance (Colour): Pale yellow
- Polymorph crystalline phase: Solid, Discotic Liquid Crystal, Isotropic
- Solubility: THF > 1 mg/mL, MeCN < 0.63 mg/mL, DMSO < 0.13 mg/mL, DCM > 1 mg/mL

Polarising Optical Microscope Picture



Phase Transition Data

Phase transition temperature:

- Heating Crys - Col_h – 123°C, Col_h - Iso – 208°C
- Cooling Iso - Col_h – 206°C, Col_h - Crys – 43°C