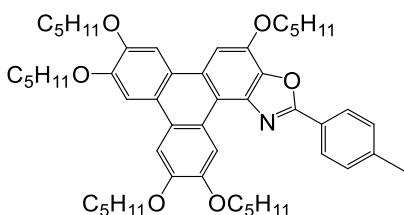


TpOx-Ph-*p*-Me

TpOx-Ph-*p*-Me is a UV excitable fluorescent material with a polycyclic aromatic donor-acceptor structure where the triphenoxazole core acts as a donor and the aromatic group on the two position of the oxazole (4-methyl-phenyl) act as the acceptor group. The push-pull, donor-acceptor, structure facilitates intramolecular charge transfer in the excited state that results in a 185 nm emission Stokes Shift. TpOx-Ph-*p*-Me is also a photo-conducting Discotic Liquid Crystalline (DLC) material with mesophase transition onset temperature of 107°C. TpOx-Ph-*p*-Me is designed for 355 nm excitation with emission at 455 nm with quantum yield of 0.54, high thermal, chemical and photostability. TpOx-Ph-*p*-Me has potential uses in fluorescent dye staining, organic electronics and photonics, and imaging applications.

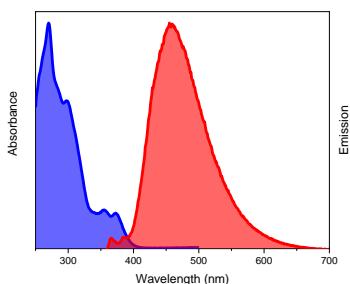
Chemical Structure



Chemical Data

- Catalogue Number: 922870
- Other Name: TpOx-Ph-*p*-Me, CT 455 11 036 01 01
- CAS #: 2612025-70-2
- Molecular Formula: C₅₁H₆₇NO₆
- Molecular Weight: 790.10

Absorbance and Emission spectra in Ethyl Acetate



Photophysical Data

- In Solvent: EtOAc
- Abs λ_{max} (nm) = 270
- Emis λ_{max} (nm) = 455
- pSS (nm) = 185
- ϵ (M⁻¹ cm⁻¹) at Abs λ_{max} = 134,000
- Quantum Yield (Φ) = 0.56
- Fluorescence Lifetime (ns) = 4.69

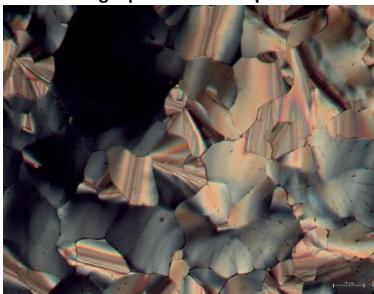
Fluorescence Emission



Material Data

- Physical State: Crystal Powder
- Appearance (Colour): Pale yellow
- Polymorph crystalline phase: Solid, Discotic Liquid Crystal, Isotropic
- Solubility: THF > 1 mg/mL, DMSO < 0.33 mg/mL, DCM > 1 mg/mL

Polarising Optical Microscope Picture



Phase Transition Data

Phase transition temperature:

- Heating Crys - Col_h – 107°C, Col_h - Iso – 190°C
- Cooling Iso - Col_h – 187°C, Col_h - Crys – 69°C