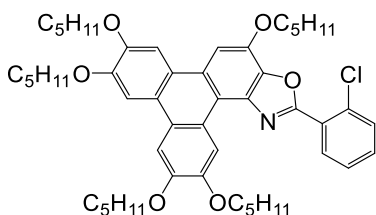


TpOx-Ph-o-Cl

TpOx-Ph-o-Cl 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 (2-chloro-phenyl) act as the acceptor group. The push-pull, donor-acceptor, structure facilitates intramolecular charge transfer in the excited state that results in a 228 nm emission Stokes Shift. TpOx-Ph-o-Cl is also a photo-conducting Discotic Liquid Crystalline (DLC) material with mesophase transition onset temperature of 89°C. TpOx-Ph-o-Cl is designed for 355 nm and 405 nm excitation with emission at 499 nm with quantum yield of 0.53, high thermal, chemical and photostability. TpOx-Ph-o-Cl has potential uses in fluorescent dye staining, organic electronics and photonics, and imaging applications.

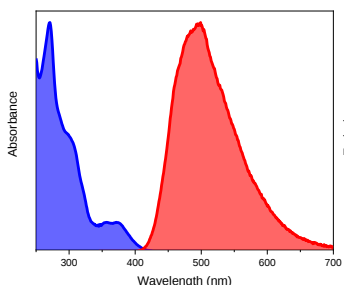
Chemical Structure



Chemical Data

- Catalogue Number: 922285
- Other Name: TpOx-Ph-o-Cl, CT 499 11 057 01 01
- CAS #: 2377209-52-2
- Molecular Formula: $C_{50}H_{64}ClNO_6$
- Molecular Weight: 810.51

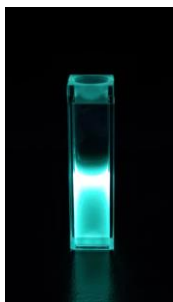
Absorbance and Emission spectra in Ethyl Acetate



Photophysical Data

- In Solvent: EtOAc
- Abs λ_{max} (nm) = 271
- Emis λ_{max} (nm) = 499
- pSS (nm) = 228
- ϵ ($M^{-1} cm^{-1}$) at Abs λ_{max} = 61,000
- Quantum Yield (Φ) = 0.53
- Fluorescence Lifetime (ns) = 6.49

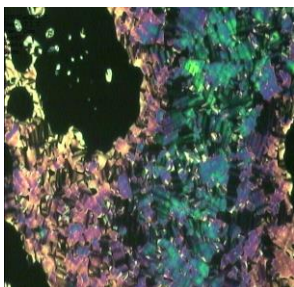
Fluorescence Emission



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 < 0.43 mg/mL, DCM > 1 mg/mL

Polarising Optical Microscope Picture



Phase Transition Data

Phase transition temperature:

- Heating Crys - Col_h – 89°C, Col_h - Iso – 148°C
- Cooling Iso - Col_h – 143°C, Col_h - Crys – 51°C