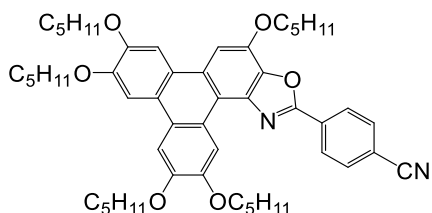


TpOx-Ph-*p*-CN

TpOx-Ph-*p*-CN 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-cyano-phenyl) act as the acceptor group. The push-pull, donor-acceptor, structure facilitates intramolecular charge transfer in the excited state that results in a 244 nm emission Stokes Shift. TpOx-Ph-*p*-CN is also a photo-conducting Discotic Liquid Crystalline (DLC) material with room temperature mesophase. TpOx-Ph-*p*-CN is designed for 355 nm and 405 nm excitation with emission at 515 nm with quantum yield of 0.32, high thermal, chemical and photostability. TpOx-Ph-*p*-CN has potential uses in fluorescent dye staining, organic electronics and photonics, and imaging applications.

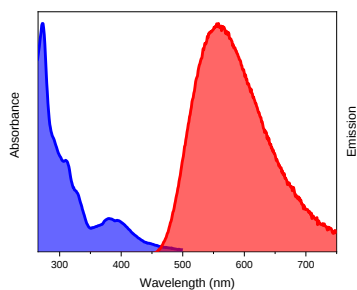
Chemical Structure



Chemical Data

- Catalogue Number: 922951
- Other Name: TpOxPh-*p*-CN, CT 558 11 064 01 01
- CAS #: 2377209-46-4
- Molecular Formula: $C_{51}H_{64}N_2O_6$
- Molecular Weight: 801.08

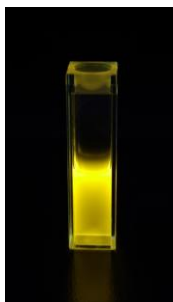
Absorbance and Emission spectra in Ethyl Acetate



Photophysical Data

- In Solvent: EtOAc
- Abs λ_{max} (nm) = 272
- Emis λ_{max} (nm) = 558
- pSS (nm) = 286
- ϵ ($M^{-1} cm^{-1}$) at Abs λ_{max} = 103,000
- Quantum Yield (Φ) = 0.32
- Fluorescence Lifetime (ns) = 5.55

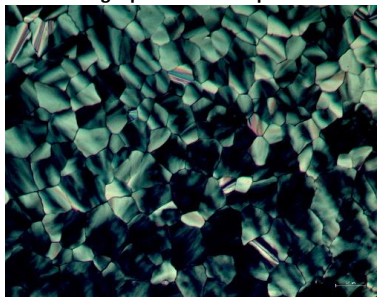
Fluorescence Emission



Material Data

- Physical State: Crystal Powder
- Appearance (Colour): Pale yellow
- Polymorph crystalline phase: Solid, Discotic Liquid Crystal, Isotropic
- Solubility: THF > 1 mg/mL, MeCN < 0.23 mg / mL, DCM > 1 mg / mL

Polarising Optical Microscope Picture



Phase Transition Data

Phase transition temperature:

- Heating Crys - Col_h - <22°C, Col_h - Iso - 275°C
- Cooling Iso - Col_h - 268°C, Col_h - Crys - <22°C