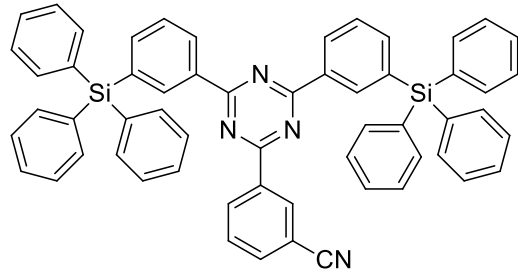


Thermally activated delayed fluorescence type exciplex host for long lifetime in deep blue phosphorescent organic light-emitting diodes

Product Specifications

| LT-N4218 | mSiTrz-mCN |
|-----------|--|
| Grade | Sublimed, >99% |
| PL | 431 nm (THF) |
| Formula | C ₅₈ H ₄₂ N ₄ Si ₂ |
| HOMO/LUMO | -7.47/-3.44 eV |
| M.W. | 851.15 g/mole |



*Reference: *Chemical Engineering Journal*, 2021, 417, 128086

Features

- In this study, three isomeric electron transport type host materials based on a triazine core, tetraphenylsilane and benzonitrile groups were synthesized for high triplet energy and good electron transport property in solid state, they formed TADF type exciplexes with a carbazole based hole transport type host.
- The mSiTrz-mCN:mCBP exciplex showed low operation voltage of 2.8 V and high efficiency of 21.0% with color coordinate of (0.14, 0.18) at 1000 cdm⁻². The device lifetime of mSiTrz-mCN:mCBP was 3,130 h at 100 cdm⁻² and it was increased over 1.6 times compared with the non-TADF type exciplex host.

Device Application

Device: ITO / BPBPA:HAT-CN / BPBPA / mCBP: mSiTrz-mCN :20%Ir(cb)3 / DBFTrz / ZADN/ LiF / Al.

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