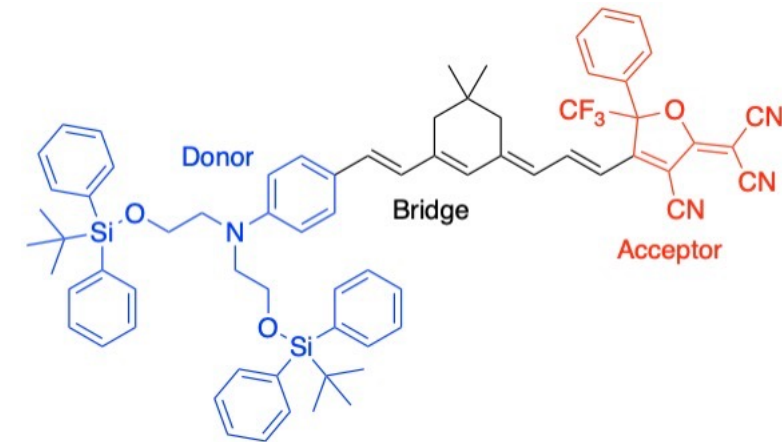
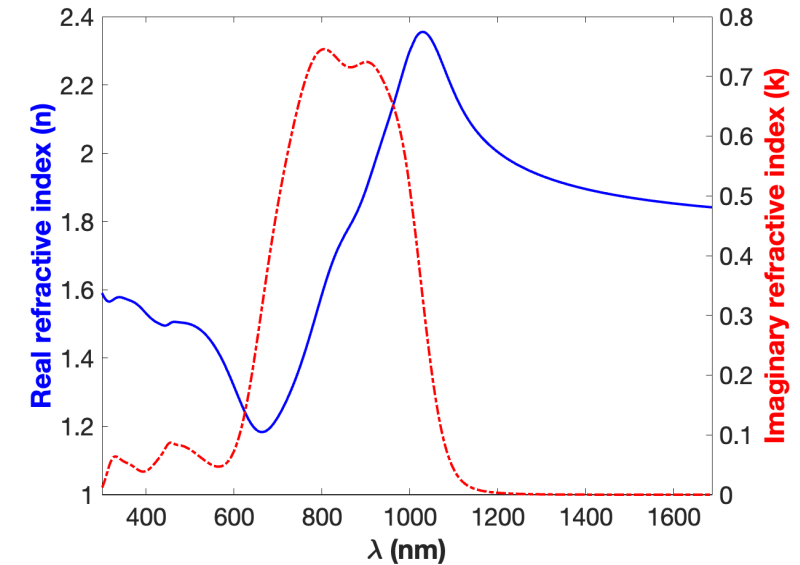


Specifications for NLM JRD1

Property/Analysis	Specification
n	1.83 – 1.85 (1550 nm) 1.91 (1310 nm)
k	< 0.0001 (1550 nm) < 0.0007 (1310 nm)
Purity by HPLC	> 95%
Glass transition temperature T_g by DSC	78-82° C
Thermal stability after poling	< 50° C
Decomposition temperature T_d by TGA	226 °C
Thin film absorption maximum (λ_{max})	800 nm
Band gap by absorption method	1.09 eV
Solution ($CHCl_3$) absorption maximum (λ_{max})	784 nm
Dielectric constant (20° C, 1 kHz)	5.9
Resistivity (20° C)	$10^{11} \Omega \text{ cm}$
Hyperpolarizability (β) in $CHCl_3$ at 1310nm	$3330 \times 10^{-30} \text{ esu} \pm 50 \times 10^{-30}$
Poling temperature	~85° C
Electro-optic coefficient (r_{33}) at 1550 nm	Up to 390 pm/V in silicon-organic hybrid ⁴
Electro-optic coefficient (r_{33}) at 1310 nm	Up to 550 pm/V in bulk device ¹
Empirical Formula/Elemental Analysis	$C_{70}H_{71}F_3N_4O_3Si_2$ (1129.53 g/mol)
CAS Number	1892557-74-2
Health data	Non-flammable, non-toxic Hazard codes: H315, H320, H335 HS Code: 3204.90.0000



Key references for JRD1:

1. W. Jin, et al. Applied Physics Letters **2014**, doi: 10.1063/1.4884829
2. W. Jin, et al. Journal of Materials Chemistry C **2016**, doi: 10.1039/c6tc00358c
3. W. Heni, et al. Optics Express **2017**, doi: 10.1364/oe.25.002627
4. C. Kieninger, et al. Optica **2018**, doi: 10.1364/OPTICA.5.000739

For more information, please contact us at contact@nlmphotronics.com or +1 (206) 413-9987