

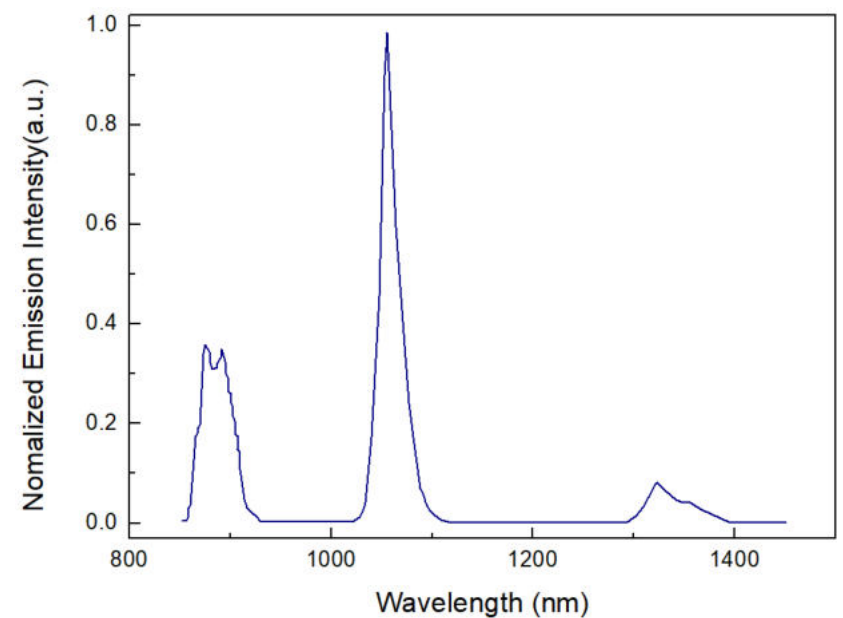
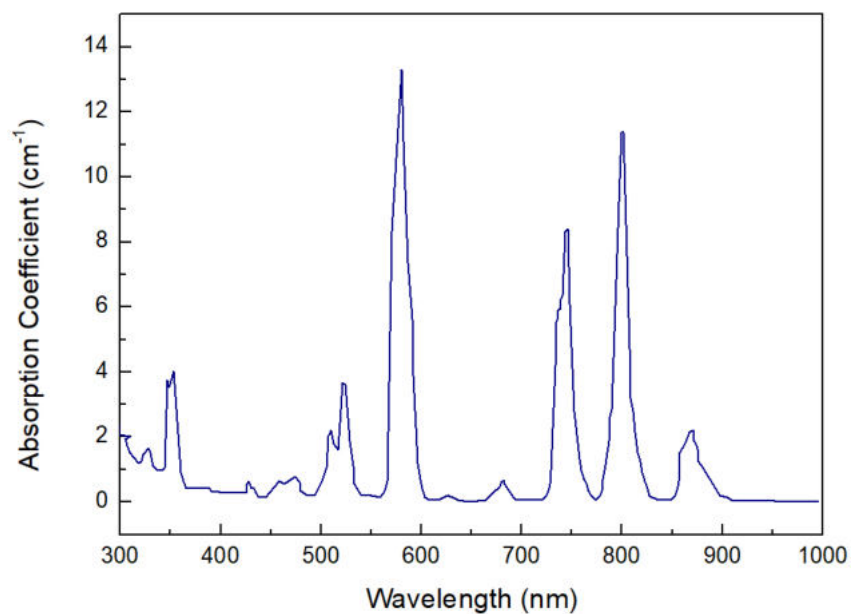
# N41 Nd:Glass



## DESCRIPTION

N41 Neodymium-doped phosphate glass has high stimulated emission cross section, low nonlinear refractive index and good thermal characteristics is specially for high power laser facilities. N41 has a lower refractive index than N21 and N31.

## SPECTRA



## PARAMETER

### Laser Specifications

Nd2O3(wt%)	4.6
Nd3+ conc. (1020ions/cm3)	4.3±0.1
Cross section for stimulated emission	(10-20cm2) 3.9±0.1
Lifetime at 1053nm (µsec)*	≥370(Nd2O3: 0.5wt%)
	≥360(Nd2O3: 1.2wt%)
	≥315(Nd2O3: 3.5wt%)
	≥310(Nd2O3: 4.6wt%)
Effective bandwidth (nm)	25.5
Fluorescence peak wavelength (nm)	1053
	≤0.0015(1053nm)
	≤0.25(400nm)
Absorption coefficient (cm-1)	≤0.25(400nm)
	≤1.5(3333nm)

### Optical Specifications

Non-linear refractive index coeff.n2 (×10-13e.s.u)	≤1.04
Refractive index (1053nm)	1.504±0.003
Abbe value	68.2

## APPLICATIONS

- High-power laser
- Ultrashort pulse laser  
Used for nonlinear laser microscopies, practical, fiber-based, high power, wideband sources and practical optical frequency comb system
- Waveguide amplifier  
Used for femtosecond laser writing method, optical communication

### Thermal Specifications

Transformation temp. (°C)	467
Softening temp. (°C)	503
Coeff.of linear thermal expansion (10-7/K) (30~100°C)	129

### Other Specifications

Density (g/cm3)	2.62
Young's modulus (G Pa)	52.4
Poisson's ratio	0.25
Knoop hardness (kg/cm2)	347
Fracture toughness (MPa·m1/2)	0.62
Dw (H2O 98°C) (mg/(cm2/day))	0.41

## FEATURES

- High stimulated emission cross section
- Low nonlinear refractive index
- Good thermal characteristics

