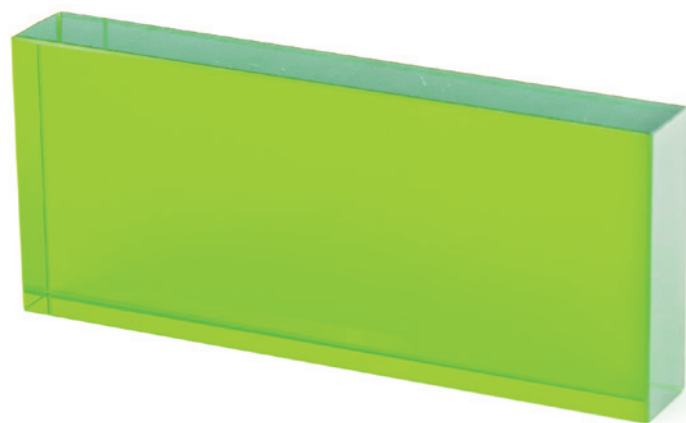


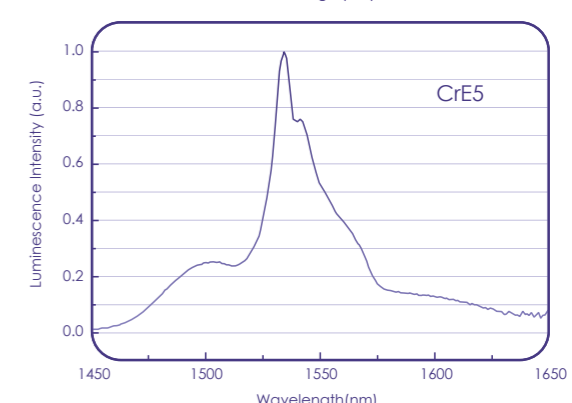
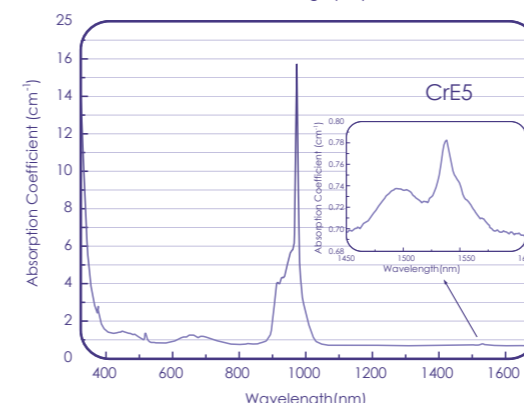
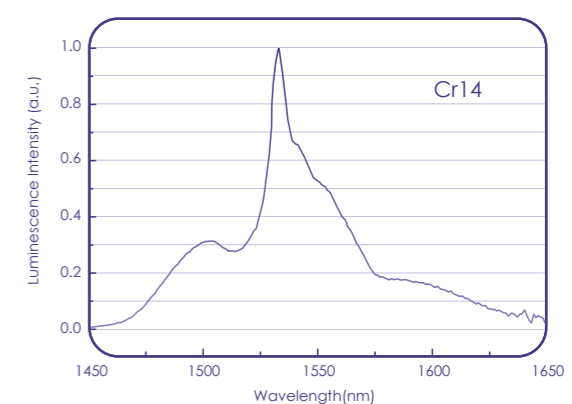
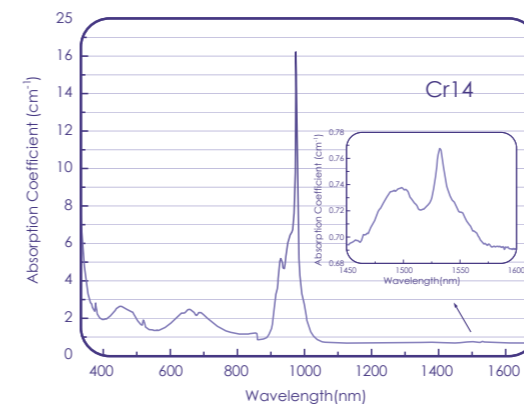
## Erbium doped phosphate glasses for lamp pump



Laser output at 1535 nm can be realized in erbium doped phosphate glass. Since this wavelength is safe for the eyes and stays in the communication window, erbium doped phosphate glass can find wide applications in communication, laser rangefinders, laser medical treatment, laser cosmetics, etc. Erbium laser glass with various doping concentrations can be produced according to the customer's requirement.

Cr14: Erbium phosphate glass for xenon lamp pumping laser device and laser range-finder

CrE5: CrE5 is for large energy output application. The glass rod of CrE5 can work safely at 1Hz repetition after surface strengthen treatment at over 10J output level.



	Cr14	CrE5
<b>Laser Specifications</b>		
Cross section for stimulated emission ( $10^{-20}\text{cm}^2$ )	0.8	0.8
Fluorescent lifetime (ms)*	7.7-8.0	7.7-8.2
Center lasing wavelength (nm)	1535	1535
<b>Optical Specifications</b>		
Refractive index (1535nm)	1.530	1.533
Refractive index (d 589.3nm)	1.539	1.541
Abbe value	64	63.6
dn/dT ( $10^{-6}/^{\circ}\text{C}$ ) (20~100°C)	-5.2	-6.8
<b>Thermal Specifications</b>		
Transformation temp.(°C)	455	476
Softening temp.(°C)	493	519
Coeff.of linear thermal expansion ( $10^{-7}/\text{K}$ ) (20~100°C)	103	80.5
Coeff.of linear thermal expansion ( $10^{-7}/\text{K}$ ) (100~300°C)	127	87
Thermal coeff. of optical path length ( $10^{-6}/\text{K}$ ) (20~100°C)	3.6	
Thermal conductivity (25°C) (W/m K)	0.70	0.80
<b>Other Specifications</b>		
Density( $\text{g}/\text{cm}^3$ )	3.10	2.95
Chemical durability (weigh loss rate at 100°C distilled water) ( $\mu\text{g}/\text{hr}.\text{cm}^2$ )	103	

\* The fluorescent lifetime changes with the erbium concentration