

p-TERPHENYL

Synonym: 1,1':4'1"-terphenyl; PTP

Catalog No.: 03400

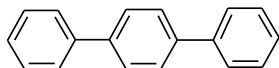
CAS No.: 92-94-4

Chemical Formula: C₁₈H₁₄

Appearance: White crystals

Structure:

MW: 230.31

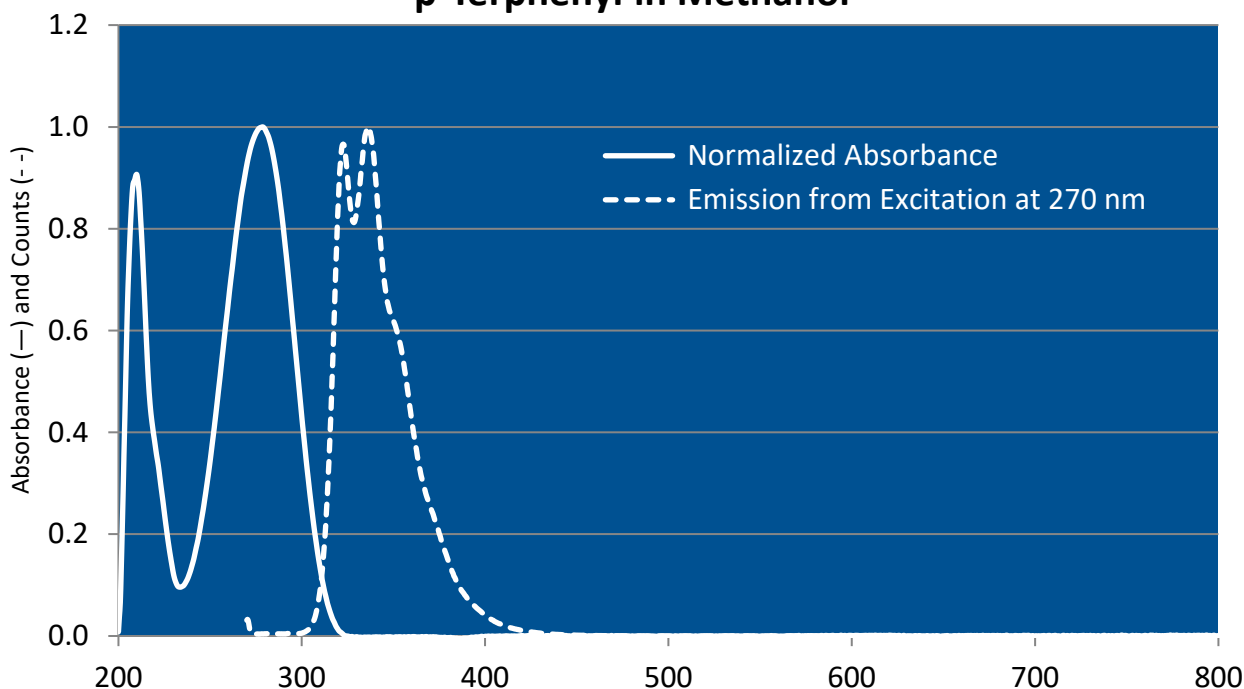


Lasing Wavelength

Max. (nm)	Range (nm)	Pump Source (nm)	Solvent	Concentration (molar)	Abs λ-max	FI λ-max
341	335-355	FL ³	DMF	1 x 10 ⁻⁴	276 ^c	339 ^c
337		KrF(248) ⁴⁴	Cyclohexane	1.25 x 10 ⁻³		335 ^t
338	326-358	KrF(248) ⁴³				
338		KrF(248) ⁴⁴	Ethanol	1 x 10 ⁻³		
339	322-336	KrF(248) ⁸⁵	Cyclohexane	1.1 x 10 ⁻³		
340	323-364	KrF(249) ¹	Cyclohexane	5 x 10 ⁻³		
340		KrF(248) ^{45,46}	p-Dioxane			
339	334-345	XeCl(308) ¹¹⁰	p-Dioxane	5 x 10 ⁻⁴		
340		XeCl(308) ¹¹²	Cyclohexane	2 x 10 ⁻³		
340	335-346	XeCl(308) ¹¹⁴	Cyclohexane	5.6 x 10 ⁻³		
341	334-347	XeCl(308) ¹¹⁸	Cyclohexane	4 x 10 ⁻³ (osc)		
341	334-350	XeCl(308) ²⁰⁴	p-Dioxane	1.6 x 10 ⁻³ (osc), 1.4 x 10 ⁻³ (amp)		
342	335-349	XeCl(308) ¹¹⁰	p-Dioxane	1 x 10 ⁻³		
342	336-349	XeCl(308) ¹¹⁴	Toluene/ethanol,4/6	3 x 10 ⁻³		
342	336-355	XeCl(308) ¹¹⁴	p-Dioxane	2 x 10 ⁻³		
343		XeCl(308) ¹¹⁵	p-Dioxane	2 x 10 ⁻³		
340	333-348	Nd:YAG(266) ⁸¹	Cyclohexane	2 x 10 ⁻³ (osc), 5 x 10 ⁻⁴ (amp)		

c = cyclohexane; t = toluene

p-Terphenyl in Methanol



The information presented above is believed to be accurate but is not a specification. The customer is fully responsible for determining the suitability of this product for use in their application. Exciton, Inc. does not represent that the information is sufficient or complete for any specific application.

Quantum Yields and Lifetimes

Absorbance (nm)	Emission (nm)	Quantum Yield (max = 1.0)	Solvent	Lifetime (ns)	References, Notes
276	341.8	0.93	Cyclohexane	0.95	Berlman, p220
	335		Ethanol	0.95	C-3

REFERENCES:

- Efficient Laser Emission in Para-terphenyl Tunable Between 323 and 364 nm, B. Godard and O. de Witte, *Optics Commun.*, 19(3), 325 (1976)
- Phase-R Corporation, Box G-2 Old Bay Rd., New Durham, NH 03855
- Tunable, Narrow Bandwidth, 2 MW Dye Laser Pumped by a KrF* Discharge Laser, V.I. Tomin, A.J. Alcock, W.J. Sarjeant and K.E. Leopold, *Optics Commun.*, 28(3), 336 (1979)
- Some Characteristics of Efficient Dye Laser Emission Obtained By Pumping at 248 nm with a High-Power KrF* Discharge Laser, V.I. Tomin, A.J. Alcock, W.J. Sarjeant, and K.E. Leopold, *Optics Commun.*, 26(3), 396 (1978)
- Tunable, Coherent Radiation in the Lyman- α Region [1210-1290Å] using Magnesium Vapor, T.J. McKee, B.P. Stoicheff, and S.C. Wallace, *Optics Lett.*, 3(6), 207 (1978)
- Characterization of Dye Laser Pumping Using a High-Power KrF Excimer Laser at 248 nm, T.J. McKee, and D.J. James, to be published September 1979 in *Canadian J. Physics*
- Tuning Ranges of 266 nm Pumped Dyes in the Near UV, L.D. Ziegler and B.S. Hudson, *Optics Commun.*, 32(1), 119 (1980)

85. Shorter Dye Laser Wavelengths from Substituted p-Terphenyls, W. Zapka and U. Brockmann, *Appl. Phys.* 20, 283 (1979)
110. Lumonics Inc., 105 Schneider Road, Kanata, (Ottawa), Ontario, Canada K2K 1Y3
112. Efficient Dye Lasers Pumped by an XeCl Excimer Laser, O. Uchino, T. Mizunami, M. Maeda and Y. Miyazoe, *Appl. Phys.*, 19, 35 (1979)
114. Optimization of Spectral Coverage in an Eight-Cell Oscillator-Amplifier Dye Laser Pumped at 308nm, F. Bos, *Appl. Optics*, 20, 3553 (1981)
115. Solvent Dependent Characteristics of XeCl-Pumped UV Dye Lasers, P. Cassard, P.B. Corkum and A.J. Alcock, *Appl. Phys.*, 25, 17 (1981)
118. The XeCl Excimer Laser: A Powerful and Efficient UV Pumping Source for Tunable Dye Lasers, H. Telle, W. Huffer and D. Basting, *Optics Commun.*, 38(5,6), 402 (1981)
204. Questek, Inc., 44 Manning Road, Billerica, MA 01821 (Tuning Curves for Model 5200B Dye Laser, PDL-3)
- C3. Photoquenching Parameters for Commonly Used Laser Dyes, S. Speiser and N. Shakkour, *Appl. Phys. B* 38, 191 (1985), <https://doi.org/10.1007/BF00697483>
- Berlman. Isadore B. Berlman, Handbook of Fluorescence Spectra of Aromatic Molecules, 2nd Edition (New York and London, Academic, 1971), <https://www.elsevier.com/books/handbook-of-florescence-spectra-of-aromatic-molecules/berlman/978-0-12-092656-5>

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