## ADVANCED MATERIALS

- [1] J.-M. Lehn, Supra. Chem. VCH, Weinheim 1995; P. Ball, L. Garwin, Nature 1992, 355, 761; M. Emmelius, G. Pawlowski, H. W. Vollmann, Angew. Chem. Int. Ed. Engl. 1989, 28, 1445; I. Willner, B. Willner, Adv. Mater. 1995, 17, 587.
- [2] Review see: B. L. Feringa, W. F. Jager, B. de Lange, Tetrahedron 1993, 49, 8267; for a brief review on chirality in nonlinear optics and optical switching see: E. W. Meijer, B. L. Feringa, Mol. Cryst. Liq. Cryst. 1993, 235, 169.
- [3] H. Dürr, Angew. Chem. Int. Ed. Engl. 1989, 28, 413.
- [4] M. Irie, M. Mohri, J. Org. Chem. 1988, 53, 803; M. Irie, K. Hayashi, Y. Nakayama, J. Org. Chem. 1990, 55, 2592; J. Daub, S. Gierisch, Chem. Ber. 1989, 122, 69; H. G. Heller, A. P. Glaze, S. A. Harris, W. Johncock, S. N. Oliver, P. J. Strydom, J. Whittall, J. Chem. Soc. Perkin Trans I 1985, 957; Y. Kurita, T. Tanaka, T. Yamanc, Y. Yokoyama, Chem. Lett. 1991, 1125.
- [5] S. H. Kawai, S. L. Gilat, J.-M. Lehn, J. Chem. Soc. Chem. Commun. 1994, 1011.
- [6] The term "pseudoenantiomers" is used in this context to indicate the opposite helicity of M-2 (M-4) and P-3 (P-5), although these are in fact diastereomers.
- [7] B. L. Feringa, H. Wynberg, J. Am. Chem. Soc. 1977, 99, 602, W. F. Jager, B. de Lange, A. M. Schoevaars, B. L. Feringa, Tetrahedron Asymmetry 1993, 4, 1481.
- [8] B. L. Feringa, W. F. Jager, B de Lange, Tetrahedron Letters 1992, 33, 2887; B. L. Feringa, W. F. Jager, B. de Lange, J. Chem. Soc. Chem. Commun. 1993, 288.
- [9] B. L. Feringa, W. F. Jager, B. de Lange, E. W. Meijer, J. Am. Chem. Soc. 1991, 113, 5468; B. de Lange, W. F. Jager, B. L. Feringa, Mol. Cryst. Liq. Cryst. 1992, 217, 129; ibid 1992, 217, 133.
- [10] W. F. Jager, J. C. de Jong, B. de Lange, N. P. M. Huck, A. Meetsma, B. L. Feringa, Angew. Chem. Int. Ed. Engl. 1995, 34, 348.
- [11] The isomeric composition of the photostationary state upon irradiation at a wavelength is given by  $4/5 \sim \varepsilon_5 \Phi_{5 \to 4}/\varepsilon_4 \Phi_{4 \to 5}$ .
- [12] "Photochromism, Molecules and Systems", in Studies in Organic Chemistry 40, (Eds. H. Dürr, H. Bouas-Laurent), Elsevier, Amsterdam, 1990
- [13] W. E. Moerner, Jpn. J. Appl. Phys. 1989, 28, 221, M. Irie, O. Miyatake, K. Uchida, J. Am. Chem. Soc. 1992, 114, 8715.
- [14] N. P. M. Huck, B. L. Feringa, J. Chem. Soc. Chem. Commun. 1995, 1095.
- [15] A. M. Schoevaars, R. Hulst, B. L. Feringa, Tetrahedron Letters 1994, 35, 9745.
- [16] B. L. Feringa, N. P. M. Huck, H. A. van Doren, J. Am. Chem. Soc. 1995, 117, 9929; for a related approach to a chiral LC phototrigger, see Y. Zang, G. B. Schuster, J. Org. Chem. 1995, 60, 7192.