

Photochromic 材料

(入江ら、*Bull. Chem. Soc. Jpn.*, **77**, 195 (2004))

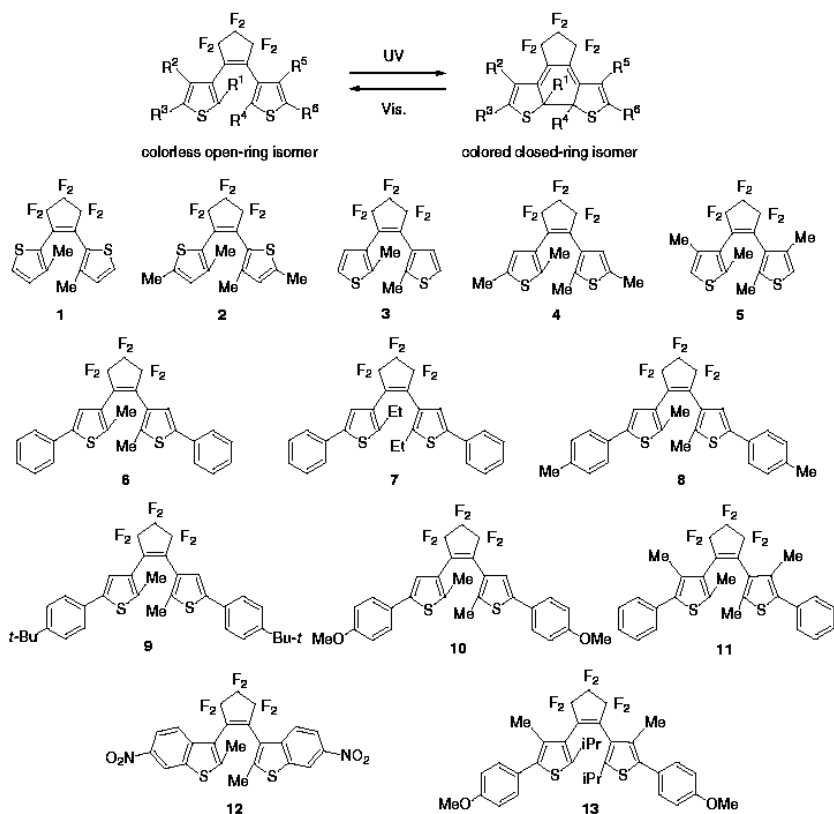
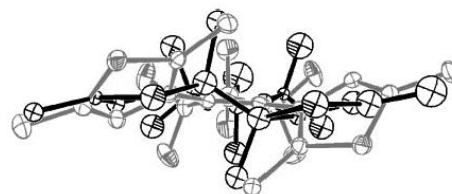


Fig. 4. Diarylethene derivatives showing single-crystalline photochromism.



開環体と閉環体の構造の結晶構造解析図の重ね書き(4)

cyclopentene 部分がフッ素化されているのは繰り返し耐久性の向上のためである。

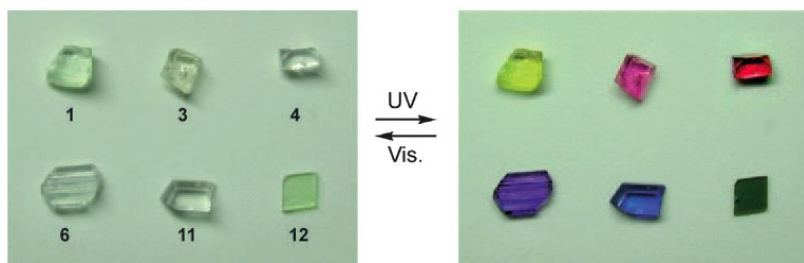


Fig. 5. Photographs of photochromic diarylethene crystals. Reprinted with permission from The Japan Academy.

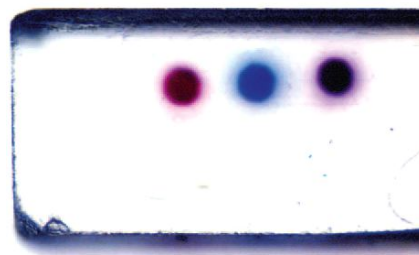


Fig. 26. Photograph of partially colored crystal 4/10. (left): irradiated with 370-nm light. (middle): irradiated with 405-nm light. (right): irradiated with both 370- and 405-nm light.

反応性と構造の相関

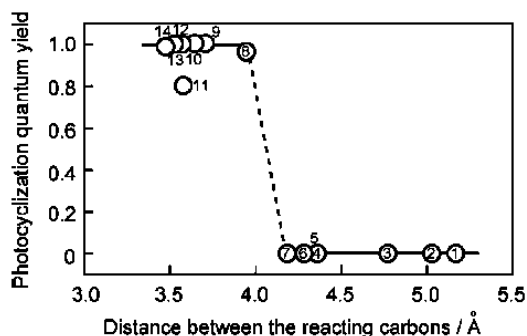


Fig. 18. Relationship between the photocyclization quantum yield and the distance between the reacting carbons. 1: 1,2-bis(2,4,5-trimethyl-3-thienyl)perfluorocyclopentene, 2: 1,2-bis(2,4-dimethyl-5-methoxyphenyl-3-thienyl)perfluorocyclopentene, 3: 1,2-bis(2-methyl-6-formylbenzothiophen-3-yl)perfluorocyclopentene, 4: 1,2-bis(2-isopropyl-4-methyl-5-phenyl-3-thienyl)perfluorocyclopentene, 5: 1,2-bis(2-methylbenzothiophen-3-yl)perfluorocyclopentene, 6: 1-(2-methylbenzothiophen-3-yl)-2-(2,6-dimethylbenzothiophen-3-yl)perfluorocyclopentene, 7: 1,2-bis(2,6-dimethylbenzothiophen-3-yl)perfluorocyclopentene, 8: compound 11, 9: compound 7, 10: compound 8, 11: compound 4, 12: compound 9, 13: compound 8, 14: compound 10.