

PHOTOCHEMISTRY OF THE CYCLODIMERS OF AROMATIC COMPOUNDS

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The cyclodimers of aromatic compounds have interesting properties such as adiabatic photodissociation and chemiluminescence because of their unique topology and high internal energy. Although much progress has been made on the studies especially of the cyclodimers of benzene and arenes, the chemistry of the heterodimers with the unit of furan has not been explored. The indirect synthesis of anti-dibenzene using the "masked 1,3,5-cyclohexatriene method", and the direct synthesis of the heterodimers([2+2], [4+4], and/or cage) of furan with 1-cyanonaphthalene, 2-cyanonaphthalene, 9-cyanoanthracene, methyl 9-anthroate, and 9-cyanophenanthrene will be presented. Quantum yields of adiabatic photodissociations of these compounds are compared. Mechanism in the formation and dissociation of some cyclodimers, including the effects of temperature and wavelength irradiated, will be also discussed.

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