

CHEMICAL MODIFICATIONS OF DI-OXA[15]ANNULENONE

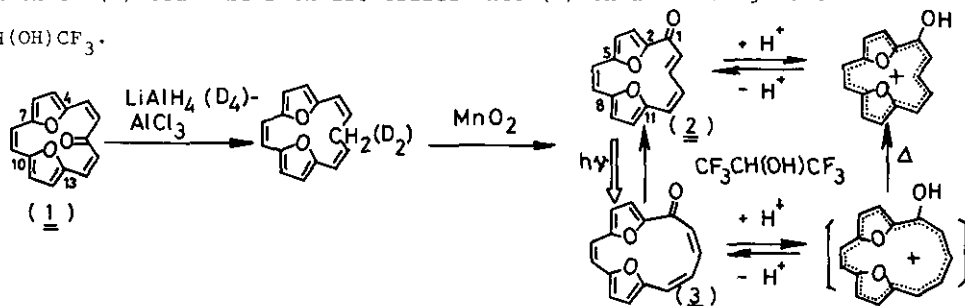
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4:7,10:13-diepoxy[15]annulenone (1) could be readily converted into 2:5,-8:11-diepoxy[15]annulenone (2) by following reaction sequence. Compound (2) could be photoisomerized into the all cis congener (3). Interestingly, it was found that (3) could be back-isomerized into (2) on dissolving it into $\text{CF}_3\text{CH}(\text{OH})\text{CF}_3$.



15-Hydroxy-2:5,8:11-diepoxy[15]annulenone (4) could be prepared according to following reaction scheme. As expected, compound (4) could be best described as the first 14π "tropolone-like Hückel aromatic", in which the OH group can form an intramolecular Hydrogen bonding with the annulenone $\text{C}=\text{O}$ to develop a well-delocalized [15]annulenylum oxide structure.

