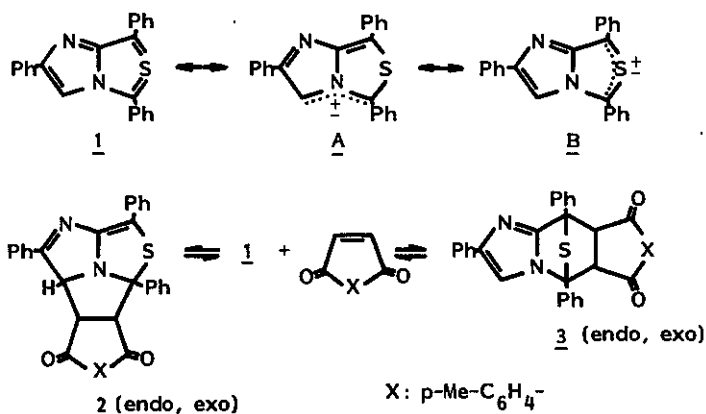


SYNTHESIS AND CYCLOADDITION REACTION OF A NITROGEN-BRIDGED
TETRAVALENT SULFUR COMPOUND, 1,3,6-TRIPHENYLIMIDAZO[1,2-c]THIAZOLE

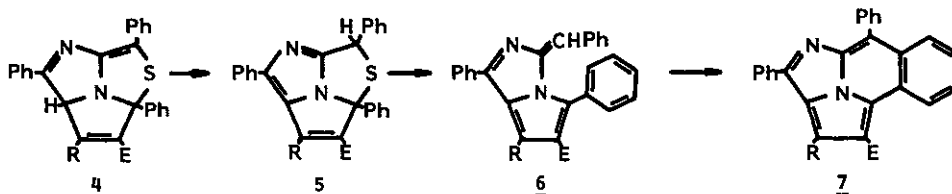
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A novel tetravalent sulfur compound, 1,3,6-triphenylimidazo[1,2-c]thiazole 1, was synthesized. The compound 1 reacted with N-(p-tolyl)maleimide as both an azomethine ylide and a thiocarbonyl ylide 1,3-dipole yielding four 1:1 adducts that contained each endo and exo isomers. The cycloadducts 2 were found to isomerize into the isomers 3 through a retro 1,3-dipolar cycloaddition reaction.



Similarly 1 underwent highly stereospecific cycloaddition reaction to some symmetrically substituted acyclic dipolarophiles giving the cycloadducts to the thiocarbonyl ylide B in good yields. A variety of unsymmetrically substituted olefinic dipolarophiles also cycloadded to 1 in an exclusively regioselective manner.



However, the cycloaddition reaction between 1 and acetylenic dipolarophiles afforded excellent yields of regio- and periselective [3 + 2] cycloadducts to A. These cycloadducts 4 underwent, in the presence of triethylamine, a rare desulfurization and a subsequent 10 pi cyclization yielding the 4,9c-diazapentaleno[1,6a,6:ab]naphthalenes (4 → 5 → 6 → 7).