Regioselectivity in Diels-Alder Reactions of Thiazolo[3,2-d][1,4,2]diazaphospholes and Related Compounds

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Thiazolo[3,2-d][1,4,2]diazaphospholes as well as their 5,6-dihydro and benzo derivatives undergo Diels-Alder reactions at the $\text{C}=\text{P}$ functionalities with 2,3-dimethylbutadiene and with isoprene. 1,3-Azaphospholo[5,1-b]benzothiazole, however, exhibits reduced reactivity and reacts with 1,3-dienes only in the presence of an oxidising agent ($\text{O}_2$, $\text{S}_8$ or $\text{Se}_n$). Reactions with isoprene occur regioselectively.

\textbf{Key words:} Regioselectivity, Diels-Alder Reaction, Thiazolo[3,2-d][1,4,2]diazaphospholes, 1,4,2-Diazaphospholo[5,4-b]benzothiazoles, 1,3-Azaphospholo[5,1-b]benzothiazole