REACTIVITY OF ISOSELENAZOLE DERIVATIVES

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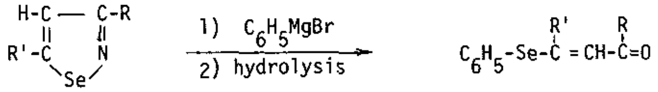
Isoselenazole and its 3- or /and 5-substituted alkyl or aryl derivatives are rather stable under atmospheric conditions as well as in the presence of concentrated mineral acids or diluted bases. They precipitate the corresponding hydrochloride from anhydrous ethereal solution by addition of HCl. With D_2SO_4 they undergo H→D exchange at position 4. With electrophilic reagents they give substitution reaction, unless they are destroyed as it happens for instance with the parent compound under several conditions. Such a substitution only involves position 4, even if an activating group is present.

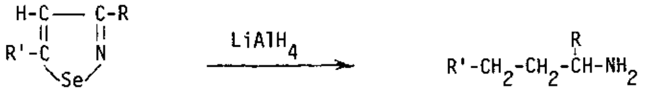
Y = NO_2 , Br , SO_2Cl

It must be noted that when 5-phenyl- or 3-methyl-5-phenylisoselenazole are used as substrate, for instance in reactions with sulphonitric mixture, besides position 4 the substitution also involves ortho, or para positions, but not a meta one, of the phenyl ring.

With strong nucleophiles, like Grignard reagents, isoselenazoles are attacked at the chalcogen atom with opening of the ring.



Isoselenazoles are easily decomposed by reducing agents. With hydrogen sulphide elemental selenium is separated. With lithium aluminum hydride the corresponding saturated amine is formed.



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