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SYNTHESIS OF *N,S*-CONTAINING COMPOUNDS USING (ISO)THIOCYANIC ACID SURROGATES

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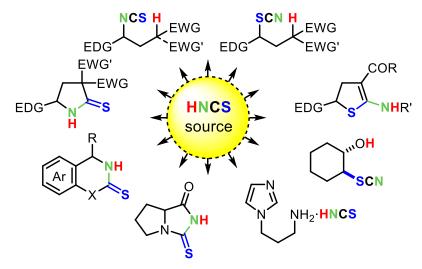
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Abstract. Organic (iso)thiocyanates and their derivatives could be synthesized through various routes. These moieties are often found in biologically relevant molecules encouraging the search for more efficient and straightforward ways to access them.

We propose novel synthetic strategies toward (iso)thiocyanic acid derivatives, cyclic and acyclic, based on the direct interaction of various substrates with (iso)thiocyanic acid surrogates^{1,2}. These approaches provided diverse compounds, such as pyrrolidine-2-thiones, 2-amino-4,5-dihydrothiophenes, acyclic thiocyanates and isothiocyanates, [1,3]benzoxazine- and quinazoline-2-thiones, *etc.* The chemoselectivity (*N/S*-attack) of developed processes depended on both substrate and nature of (iso)thiocyanic acid source.



References

1. Andreev I. A., Ratmanova N. K., Augustin A. U. et al. Protic ionic liquid as reagent, catalyst, and solvent: 1-methylimidazolium thiocyanate. Angew. Chem. Int. Ed. 2021, *vol.* 60, *pp*. 7927–7934.

2. Jacob A., Barkawitz P., Andreev I. A. et al. Cycloaddition of donor-acceptor cyclopropanes with thiocyanate: a facile and efficient synthesis of 2-amino-4,5-dihydrothiophenes. Synlett. 2021, *vol.* 32, *pp.* 901–904.

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