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Synthesis of New Condensed Spiroheterocycles *via* T-Reactions

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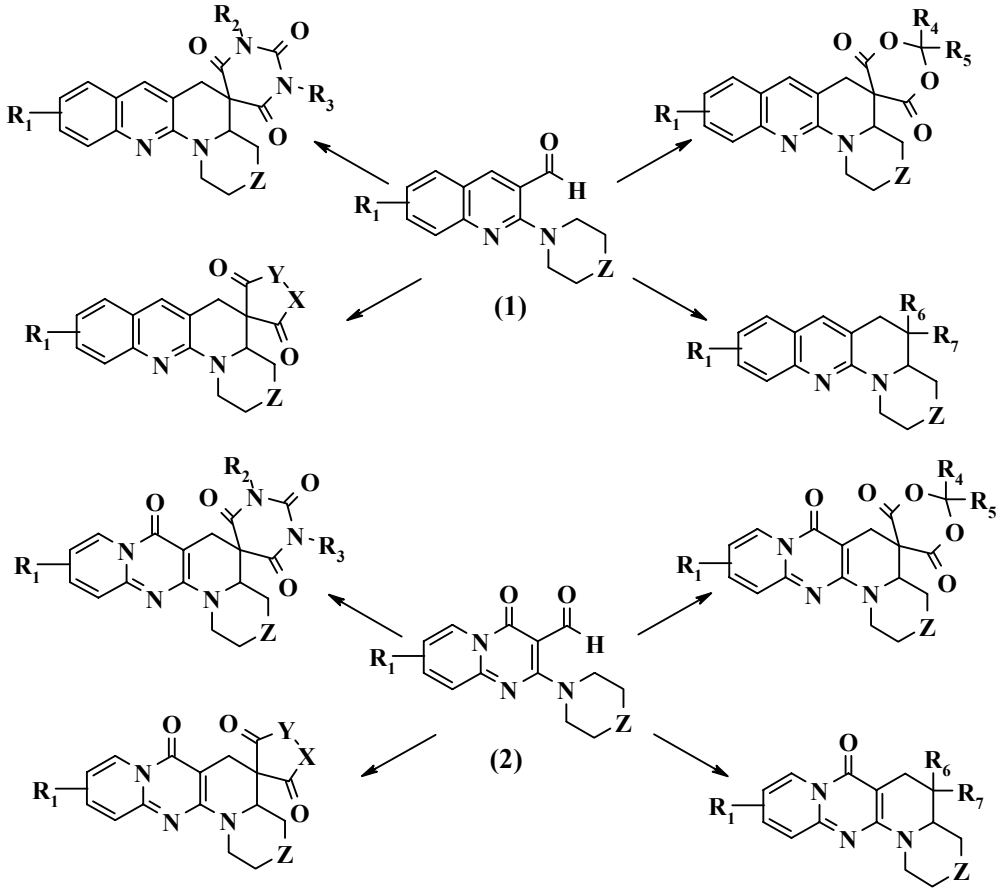
We explored the T-reactions of some heterocyclic *o-t*-aminoaldehydes (**1** and **2**) with various CH acids (polar solvents, 60-100ºC, 2-10 hrs, 40–80% yields):



R_1 = H, Alk, OCH_3; R_2, R_3 = H, Alk, Ar, Het; R_4, R_5 = Alk, Ar, $(CH_2)_4$, $(CH_2)_5$;
R_6 = CN; R_7 = CN, COOAlk, $_2$-Py, $_2$-Benzimidazolyl, $_2$-Benzthiazolyl;
X = NH, Y = NAr; X = CH_2, Y = O; X = CH_2, Y = NAr

Similar T-reactions were carried out with *o-tert*-aminoaldehydes – the derivatives of some pyrroles, pyrazoles, indoles, pyridines, and thiophenes. Indanediones-1,3, tetronic and tetramic acids, malonedinitrile, cyanoacetic esters, and cyanomethyl heterocycles were used as CH acids. The mechanism and features of T-reactions at different strength of CH acids and type of T-amine, stereochemical aspects, examples of abnormal T-reactions are discussed.

The structure of synthesized compounds was confirmed by NMR (^{1}H, ^{13}C) and mass spectra.