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Poster Presentation

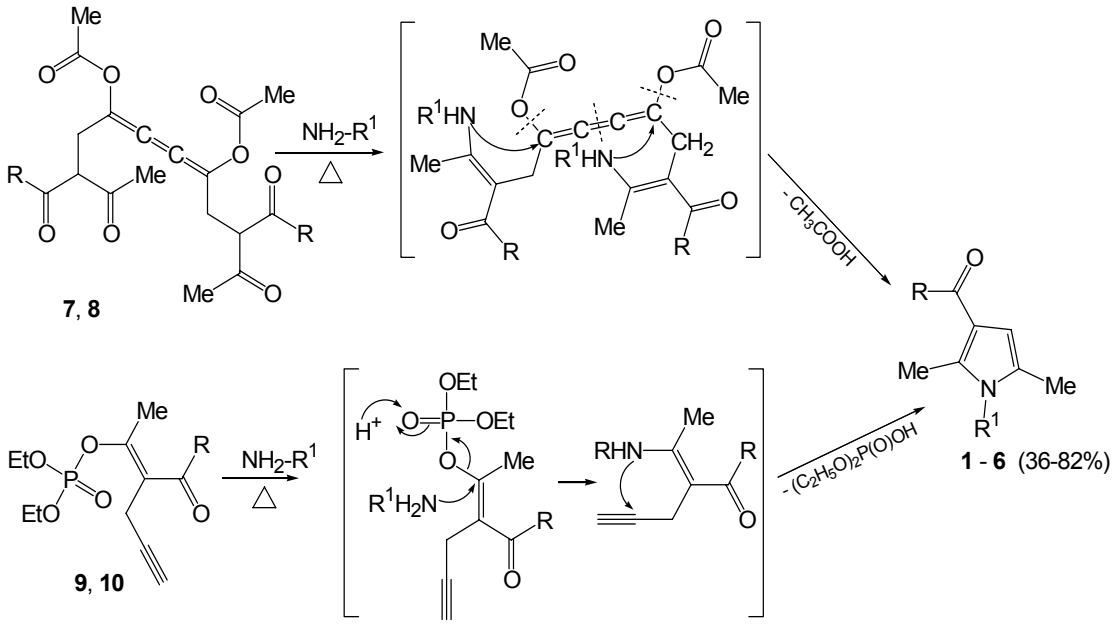
Original Methods for Pyrrols Synthesis

Svetlana A. Vizer, Yelena H. Dedeshko, Alua T. Basenova, Kazbek B. Yerzhanov

Institute of Chemical Sciences, Walikhanov str. 106, Almaty, 480100, Kazakhstan
e-mail: vizer@nets.kz, borisded@online.ru

We have developed novel original synthetic methods of substituted pyrrols in a good to high yields with the purpose of the new biological active compounds design.

Tetrasubstituted pyrrols **1-6** have been synthesiszed by the reaction of hexacarbonyl tetrasubstituted tetracumulenes **7**, **8** or propargyl enolphosphates **9**, **10** with primary amines.



1, **2**, **3**, **7**, **9** R = Me; **4**, **5**, **6**, **8**, **10** R = OEt

1, **4** R^1=-CH_2-C_6H_5; **2**, **5** R^1= -$(CH_2)_2OCH{=}CH_2$; **3**, **6** R^1=-$(CH_2)_2$-$C_6H_3(OCH_3)_2$

In both cases the reaction passes through intermediate enamines formation. Their cyclization leads to formation of tetrasubstituted pyrrols **1-6** by intramolecular nucleofilic attack of nitrogen atoms on the α-carbon atoms of cumulenes or acetylenes bonds. The yields of pyrrols **1-6** obtaining from acetylenic enolphosphates **9**, **10** higher on 7-15% that those of from cumulenes **7**, **8**.

The substances suppressing the human erythrocyte aggregation, increasing the transmembrane fluxes of potassium ions and influencing on the microreological blood's characteristics have been found among pyrrols **1-6**.

Thus we have proposed novel synthetic methods of practical useful tetrasubstituted pyrrols from cumulenes or enolphosphates.