1. Summary

Synthesis of unsymmetrical derivatives of azaphthalocyanines and their complex formation with pyridine

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I prepared the mixture of six possible products (AAAA, AAAB, ABAB, AABB, ABBB, BBBB) using a statistical condensation starting from two different precursors - 5,6-bis(diethyamino)pyrazine-2,3-dicarbonitrile (A) and 5-diethylamino-6-[2-(4,4´-dimethoxytrifenymethoxy)-ethylamino]pyrazine-2,3-dicarbonitrile (B). Only compound of AAAB type was isolated by column chromatography from the mixture, purified and was characterized by NMR, IR, MS, UV-VIS spectroscopy.

The precursor (B) was changed - 5-diethylamino-6-[2-(4,4´-dimethoxytrifenymethoxy)-ethylmethylamino]pyrazine-2,3-dicarbonitrile - and the statistical condensation was done the same way. Unfortunately the desired AAAB product was unstable and therefore the work was finished.

In another part of this work I have studied a formation of proton-transfer complex with two molecules of pyridine. Three different AzaPc with hydroxy groups on periphery were used in this study. The influence of hydroxy groups on the rate constant was not confirmed. Then I used only one AzaPc - 2,3,9,10,16,17,23,24-oktakis(diethylamino)-1,4,8,11,15,18,22,25-(oktaaza)phthalocyanine - but different medium (pyridine with 1% of ethanol or *n*-octan-1-ol). The influence of different medium on the rate constant was not confirmed.