

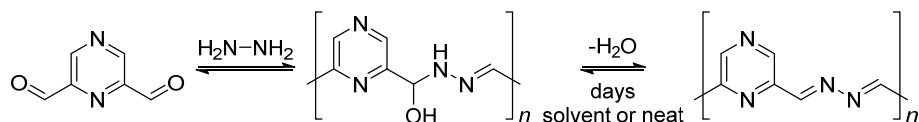
IMINE DYNAMERS BASED ON PYRAZINE BUILDING UNITS

Markéta Prusková^a, Radek Coufal^a, Dušan Drahoňovský^b, and Jiří Vohlídal^a

^a Department of Physical and Macromolecular Chemistry,

^b Department of Organic Chemistry, Charles University, Faculty of Science,
Hlavova 2030, 128 43, Prague 2, Czech Republic

During investigation of reactions between pyrazinedicarbaldehydes and various diamines, leading to conjugated poly/oligoimines, we found that in some cases it was possible to isolate the product containing hemiaminal linkage in the structure (Scheme). Despite the fact that hemiaminals are rather unstable intermediates formed during the imine condensation and are rare in the chemical literature, the prepared hemiaminals are stable within days, and only slowly eliminate water forming poly/oligoimines.



Scheme Example of imine condensation going through stable hemiaminal.

The kinetics of this process have been extensively studied by means of IR, Raman and NMR spectroscopy. Significant attention has been also paid to poly/oligoimines compounds, since they are of considerable interest to the dynamic polymers (dynamers) research.