The following full text is a publisher's version.

For additional information about this publication click this link.
http://hdl.handle.net/2066/16392

Please be advised that this information was generated on 2017-09-21 and may be subject to change.
Isocyanides can be polymerized to poly(iminomethylene) with NiCl₂ as a catalyst¹.

\[ \text{n R-N=C} \xrightarrow{\text{Ni}^{	ext{II}}} \text{(R-N=C)}_{\text{n}} \]

The polymers have a rigid, helical structure with 4 repeating units per turn and a helical periodicity of 0.4 nm. The side chains of the polymers are arranged in 4 stacks parallel to the axis of the helix.

We have prepared a poly(iminomethylene) which contains coronand side chains by polymerizing 4-(1-isocyanomethyl)benzo-18-crown-6 with nickel chloride. The coronands in the polymer form 4 molecular channels (Fig. 1), which strongly bind alkali and ammonium cations. The polymer provides a model for the study of ion transport through molecular channels in biological membranes.

Fig. 1. Projection along polymer helix axis. The 5th repeating unit is behind the first, the 6th behind the second, etc.