

NEW MEMBRANES FOR ENHANCED PURIFICATION OF NATURAL GAS AT THE WELLHEAD

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The project goals are to examine a series of aliphatic polyimide films (synthesis and polymer structure shown below) and their subsequent TiO_2 nanocomposites for potential use as a purification membrane for natural gas. During this project we have completed the synthesis of the homologous aliphatic polyimide series, with and without the addition of TiO_2 and have collected the thermal/mechanical data (shown below) on these materials. We continue to collect the gas permeation data for the native homologous series and will soon begin the collection of this data from the nanocomposites. More recently, we have synthesized another series of polyimides which incorporate a series of rigid aliphatic diamine monomer.

