SYNTHESIS AND SPECTRAL PROPERTIES OF POTENTIALLY NEW CONDUCTING ORGANIC MATERIALS. M. Roberts and R. Wilson, Bioscience and Health Careers at Franklin Educational Campus; L. Rubenstein*, Hamilton College, Department of Chemistry; J. Worman†, Department of Chemistry, Rochester Institute of Technology. jiwisch@rit.edu

Several new compounds were prepared by the reaction of specific amines with 2,2,4,4-tetramethyl-1,3-cyclobutanedione in toluene in the presence of an acid catalyst.

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\begin{align*}
\text{O} & \quad \text{+ } R-\text{NH}_2 & \quad \text{H}^+ & \quad \text{Toluene} & \quad \text{R} & \quad \text{N} & \quad \text{+ } 2 \text{H}_2\text{O} \\
\quad & \quad \text{(Syn and Anti)} & \\
\text{O} & \quad \text{+ } \text{R} & \quad \text{or} & \quad \text{R} & \quad \text{= o-fluoroaniline} & \quad \text{or} & \quad \text{R} & \quad \text{= p-fluoroaniline}
\end{align*}
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Water was azeotroped from the reaction mixture using a Dean Stark Trap. Samples evaporated in vacuo, cooled, collected by vacuum filtration and purified by sublimation. The chemical structures were determined by IR, NMR, GC/MS and elemental analysis. All data were consistent with the proposed structures. Interpretation of spectra in relation to the unusual orbital interactions in the prepared compounds is described.

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