

## 235. Expanding the chemical diversity of E.coli derived products

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While the majority of crude oil refined in the world is used for the production of fuels, many other important industrial compounds derived from oil are used in the production of fabrics, plastics, and other materials. Engineering microbes to produce these compounds from renewable sources will be crucial to decreasing our dependence on petroleum. We are therefore focusing efforts on producing long chain dicarboxylic acids, hydroxy fatty acids, and diols from glucose in *E. coli*. These compounds are used in the production of polyesters and nylons. We have established a system to produce long chain dicarboxylic acids in *E. coli* by engineering the biotin and fatty acids biosynthetic pathways, and are working towards production strains for hydroxy fatty acids and diols. The production of these relatively high-value compounds has a greater potential for economic viability than fuels, and will further decrease our need to produce and import oil.