What is claimed is:

1. A genetically altered *Escherichia coli* bacterium that produces at least 20 grams per liter of an organic chemical selected from the group consisting of succinic acid, fumaric acid, malic acid, and 1,4-butanediol, in a minimal medium, said bacterium comprising at least one exogenous gene that encodes a sucrose utilization function selected from the group consisting of a sucrose:H+ symporter, and a fructokinase.

2. The genetically altered *Escherichia coli* bacterium of claim 1, wherein said at least one exogenous gene that encodes a sucrose utilization function is contained in a replicating plasmid.

3. The genetically altered *Escherichia coli* bacterium of claim 1, wherein the bacterium is a phosphotransferase system^{+} bacterial strain.

4. The genetically altered *Escherichia coli* bacterium of claim 1, wherein the bacterium is a phosphotransferase system^{-} bacterial strain.

5. The genetically altered *Escherichia coli* bacterium of claim 1, wherein said at least one exogenous gene that encodes a sucrose utilization function is integrated into the *Escherichia coli* bacterium chromosome.

6. A genetically altered *Escherichia coli* bacterium that produces at least 20 grams per liter of succinic acid in a minimal medium, said bacterium comprising at least one exogenous gene that encodes a sucrose utilization function selected from the group consisting of a sucrose:H^{+}symporter, and a fructokinase.

7. The genetically altered *Escherichia coli* bacterium of claim 6, wherein said at least one exogenous gene that encodes a sucrose utilization function is contained in a replicating plasmid.

8. The genetically altered *Escherichia coli* bacterium of claim 6, wherein said at least one exogenous gene that encodes a sucrose utilization function is integrated into the *Escherichia coli* bacterium chromosome.

9. The genetically altered *Escherichia coli* of claim 6, wherein said exogenous gene encodes an invertase enzyme with sucrose utilization function.

10. The genetically altered *Escherichia coli* bacterium of claim 6, wherein the bacterium is a phosphotransferase system^{+} bacterial strain.

11. The genetically altered *Escherichia coli* of claim 6, wherein the bacterium is a phosphotransferase system^{-} bacterial strain.