That which is claimed is:

1. An enone reductase polypeptide comprising an amino acid sequence that is at least 95% identical to a reference sequence of SEQ ID NO: 8, which is stable to treatment conditions of 50% isopropanol at 30°C and/or 10-20% isopropanol at 40°C, and which is capable of reducing 1-cyclohex-2-enone to cyclohexanone with improved activity as compared to the enone reductase polypeptides of SEQ ID NO:4 and SEQ ID NO:6.

2. The enone reductase of claim 1, wherein the reductase comprises an amino acid sequence that is at least 96%, at least 97%, at least 98%, or at least 99% identical to a reference sequence of SEQ ID NO: 8.