3-His Metal Coordination Site Promotes the Coupling of Oxygen Activation to Cysteine Oxidation in Cysteine Dioxygenase

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Supporting Information

Figure S1-S3: Pages S2-S4

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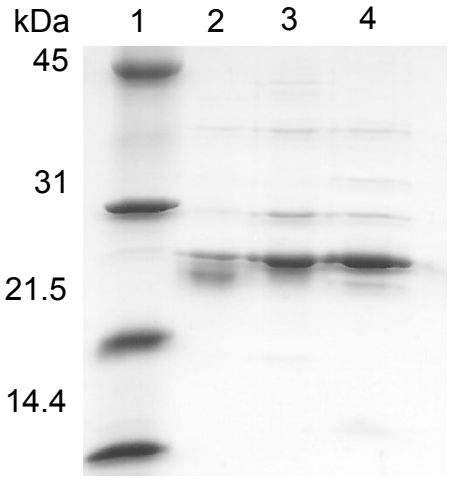

Figure S1. Analysis of wild-type CDO isoforms and C93E CDO by SDS-PAGE. (1) Molecular weight marker, (2) purified wild-type CDO containing a heterogeneous mixture of non-crosslinked and crosslinked isoforms, and (3) purified non-crosslinked wild-type CDO (4) Purified C93E CDO existing only as the non-crosslinked isoform.

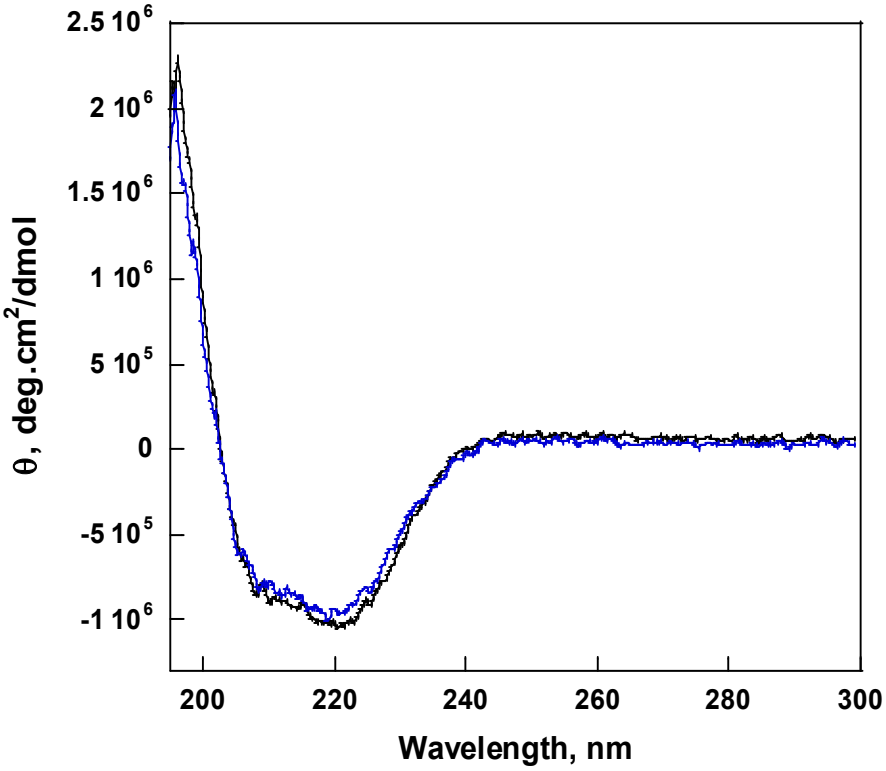

Figure S2. Circular dichroism spectra of wild-type and C93E CDO. Wild-type CDO (black line) and C93E CDO (blue line) spectra were taken with 10 μM protein in 10 mM potassium phosphate, pH 7.5.

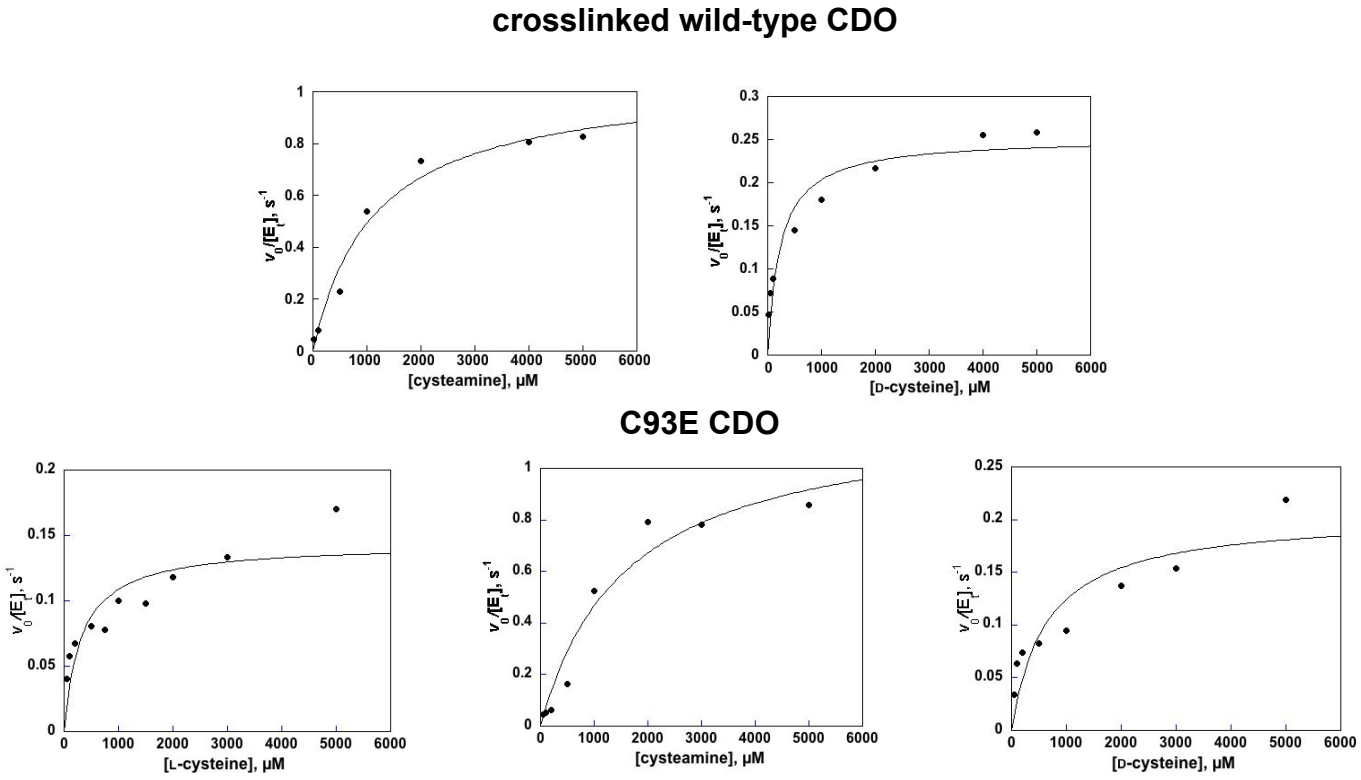

Figure S3. Initial rates of oxygen utilization were determined with a Clark-type oxygen electrode as described in **Experimental procedures**. Steady-state kinetic plots for crosslinked wild-type CDO with varying concentrations of cysteamine and D-cysteine substrates. Crosslinked wild-type CDO with the L-cysteine substrate was previously determined [15]. Steady-state kinetic plots for C93E CDO with varying concentrations of L-cysteine, cysteamine, and D-cysteine. The steady state kinetic parameters for wild-type and C93D CDO in Table 2 and 3 were determined from fits of the plots shown to the Michaelis-Menten equation.