Supplementary Material

Conversion of Racemic Unnatural Amino Acids to Optically Pure Forms by a Coupled Enzymatic Reaction and Its Application to Genetic Code Expansion

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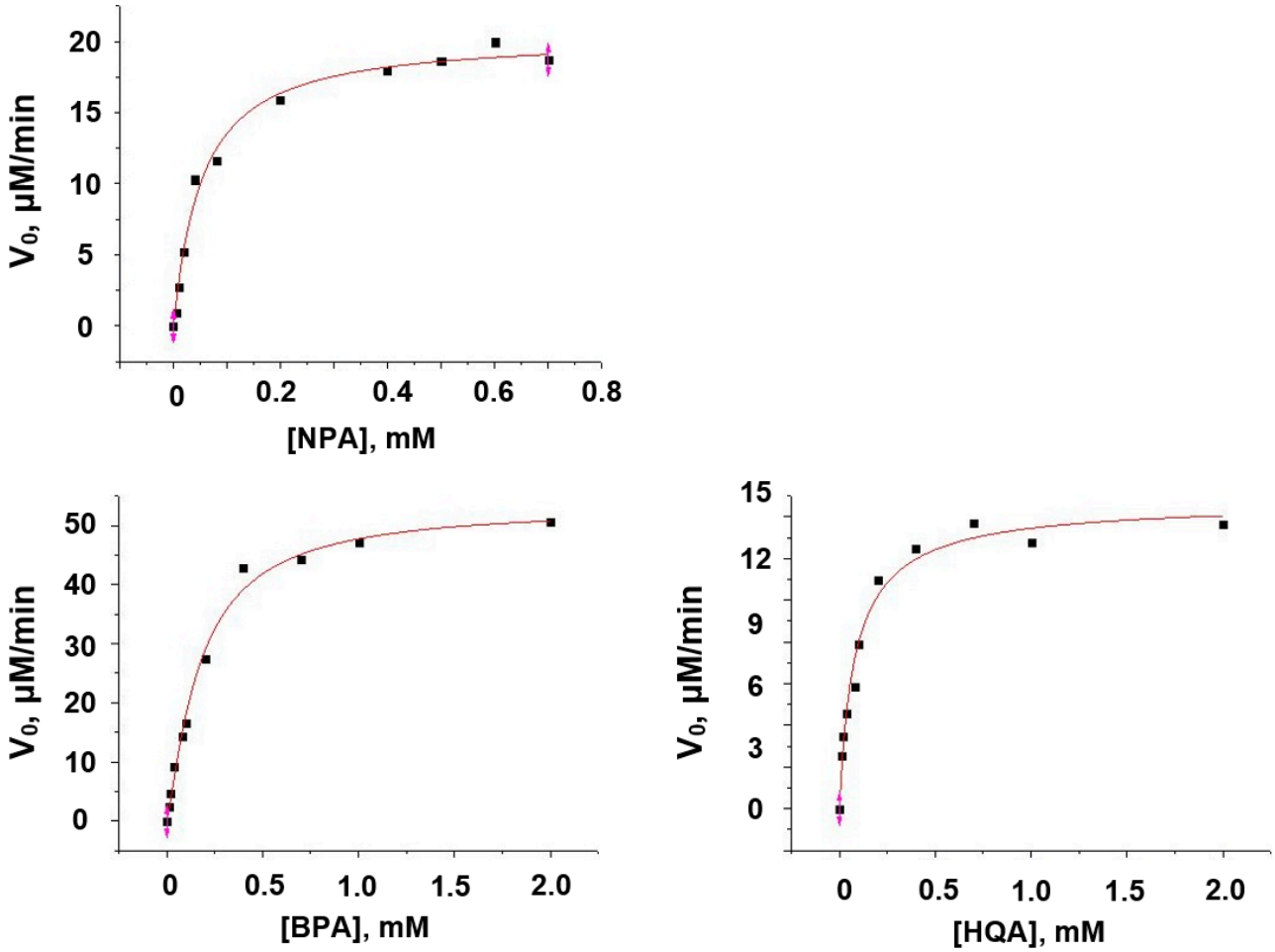

Figure S1. Enzyme kinetics of RgDAAO by a peroxidase-coupled enzymatic assay. Conditions: 75 mM phosphate buffer (pH 8.5), 1 mM *o*-dianisidine, 1 U HRP, UAA (indicated concentrations) and RgDAAO (11.9 nM for NPA and 119 nM for BPA and HQA) at 25 °C.

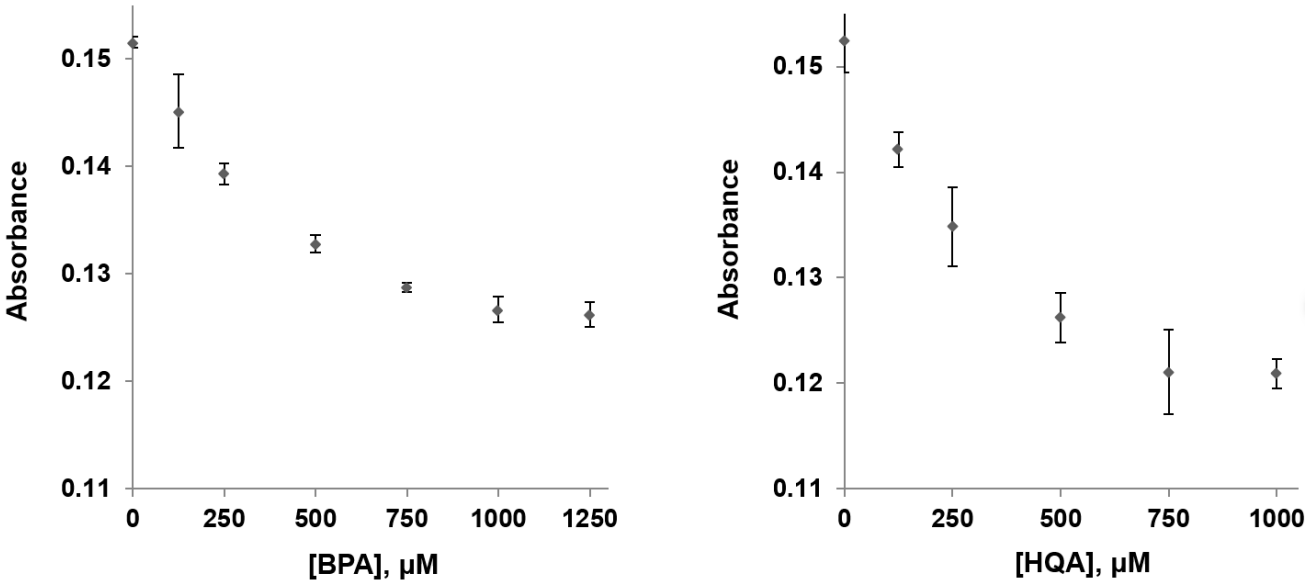

Figure S2. TtAT activity for BPA (left) and HQA (right). Conditions: 50 mM HEPES-NaOH (pH 8.0), 0.1 M KCl, UAA (indicated concentrations), and 20 μM TtAT. The reaction mixture was incubated at 25 °C for 5 min, and absorbance was measured at 430 nm.

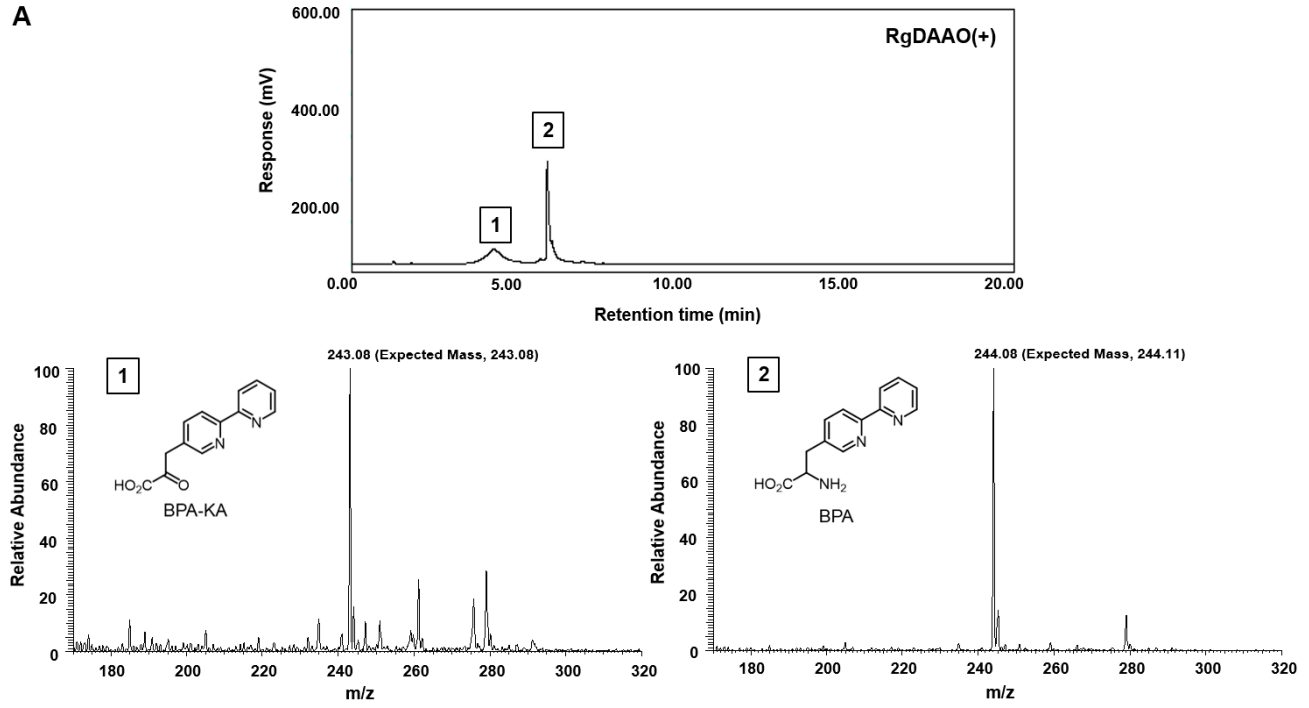

Figure S3. LC-MS characterization of the reaction products of racemic BPA (**A**) and HQA (**B**) by RgDAAO. LC traces (280 nm for BPA and 254 nm for HQA) and MS spectra for each peak are shown.

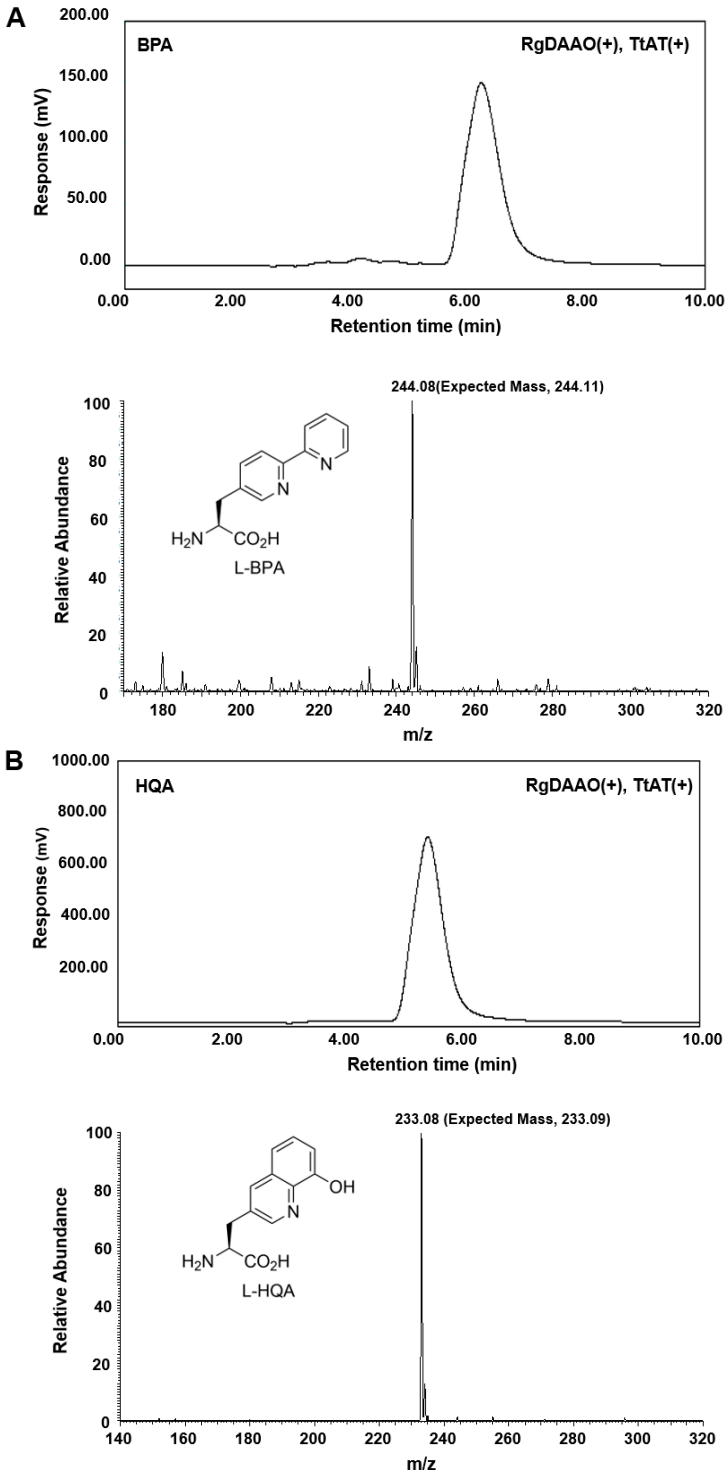

Figure S4. LC-MS characterization of the reaction products of racemic BPA (**A**) and HQA (**B**) by the coupled reaction of RgDAAO and TtAT. LC traces (280 nm for BPA and 254 nm for HQA) and MS spectra for each peak are shown.