S. Figure 1 The reaction mixtures obtained at different conditions:

**A**: 1 mL [Bpy]BF₄ mixed with 0.5 mL cis-cyclooctene.

**B**: 1.5 mL [Bpy]BF₄ mixed with 1.5 mL [Dopy]BF₄, 0.5 mL cis-cyclooctene, 0.75 mL 30 wt% aqueous H₂O₂, and 0.1 mmol catalyst 1 after stirring at room temperature for 30 min.

**C**: 1.5 mL [Bpy]BF₄ mixed with 1.5 mL [Dopy]BF₄, 0.5 mL cis-cyclooctene, 0.75 mL 30 wt% aqueous H₂O₂, and 0.1 mmol catalyst 1 after stirring at room temperature for 30 min and then standby.

**D**: the mixture of 1.5 mL [Bpy]BF₄, 1.5 mL [Dopy]BF₄, 0.5 mL cis-cyclooctene, 0.75 mL 30 wt% aqueous H₂O₂, and 0.1 mmol catalyst 1 after the reaction at 80 °C for 1 h and then cooling to room temperature.