# Effective activation of peroxymonosulfate to degrade p-nitrophenol (PNP) by Co-B-O-C amorphous materials prepared from 150 to 600 °C and room temperature Co-B-O-C solution catalysts

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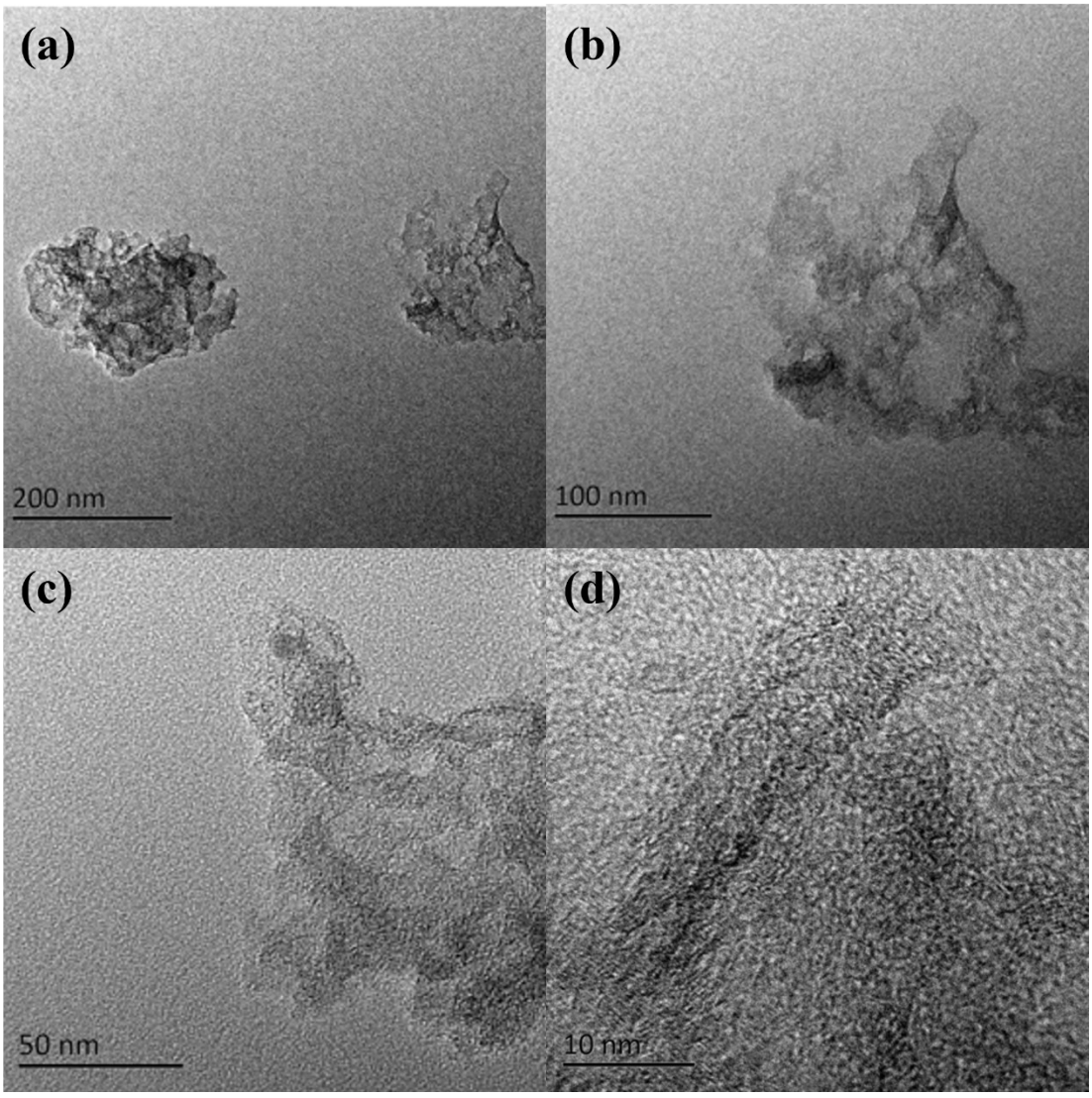

Figure S1. TEM image of the Co-B-O-C- citric acid catalyst.

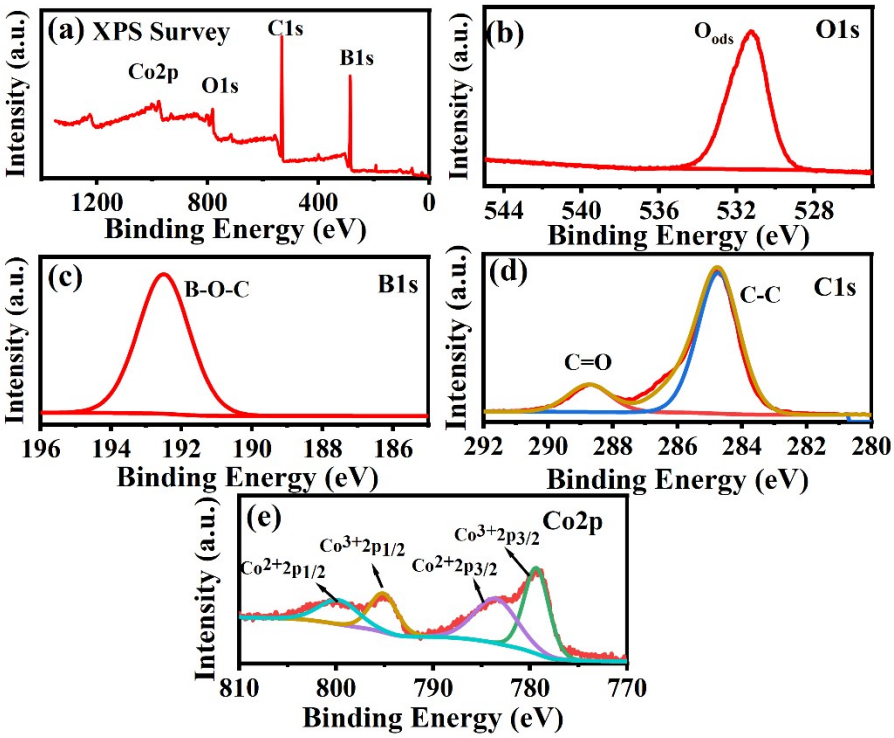


Figure S2. XPS spectrum of Co-B-O-C-citric acid-300.

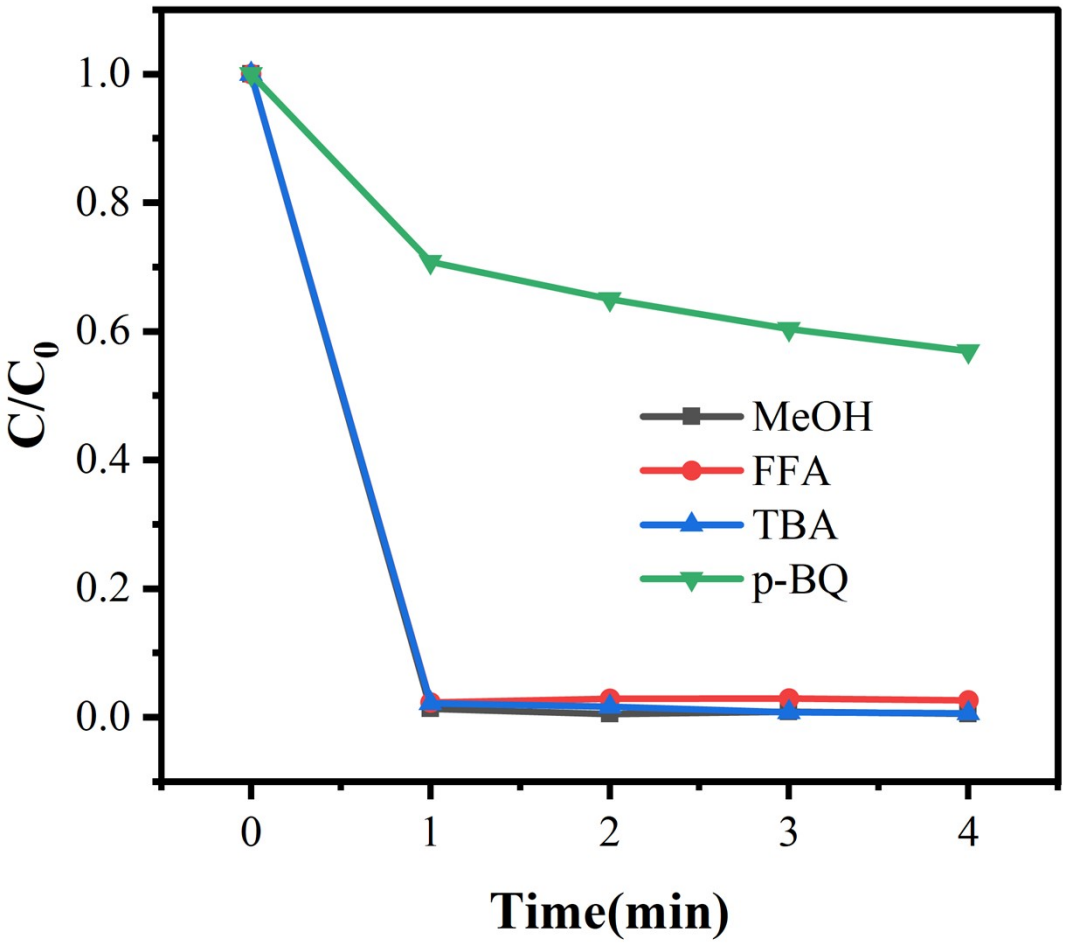


Figure S3. Radical quenching experiment of Co-B-O-C-600°C-Glucose. Experimental condition: pH=7, PMS =1.8mM, PNP=0.09mM, catalyst=0.2mg, quencher=36mM.

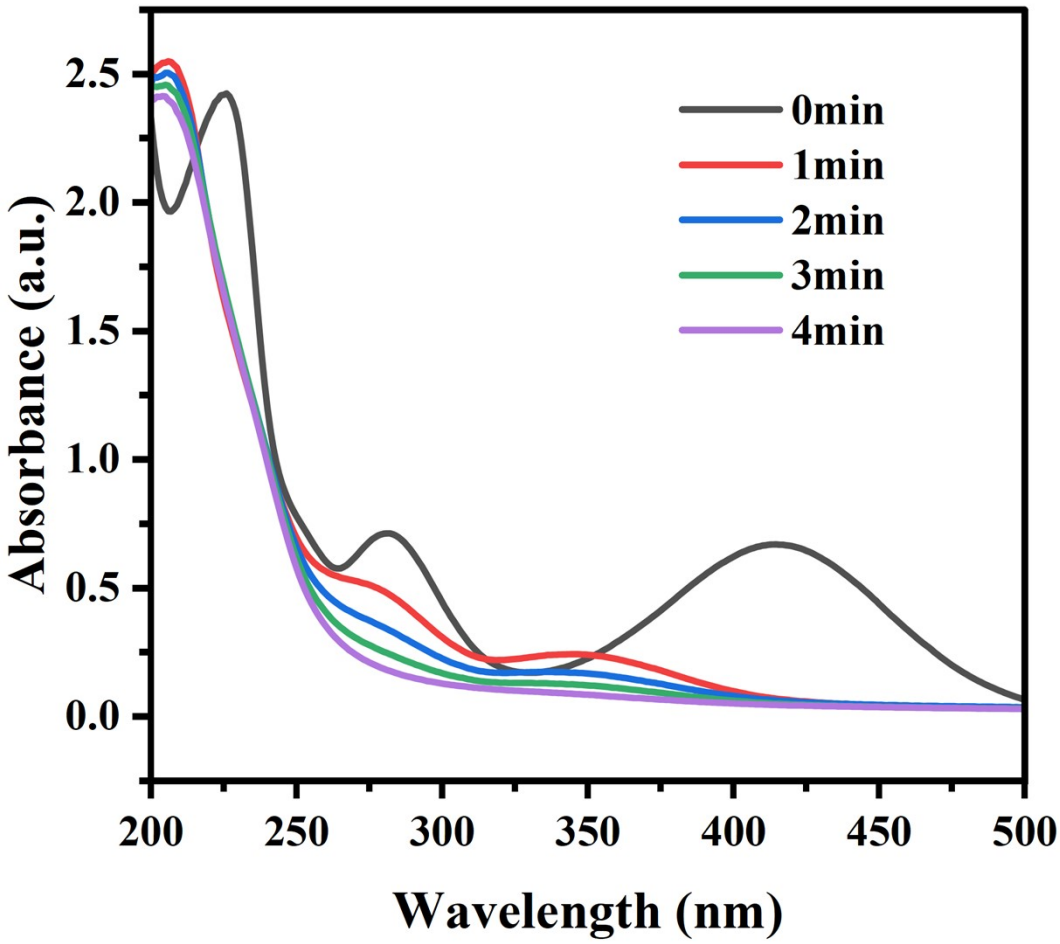


Figure S4. Co-B-O-C-citric acid-300 activates PMS to degrade 2-NP. Experimental condition: pH=7, PMS =1.8mM, 2-NP =12.5 mg/L, catalyst=0.2mg.

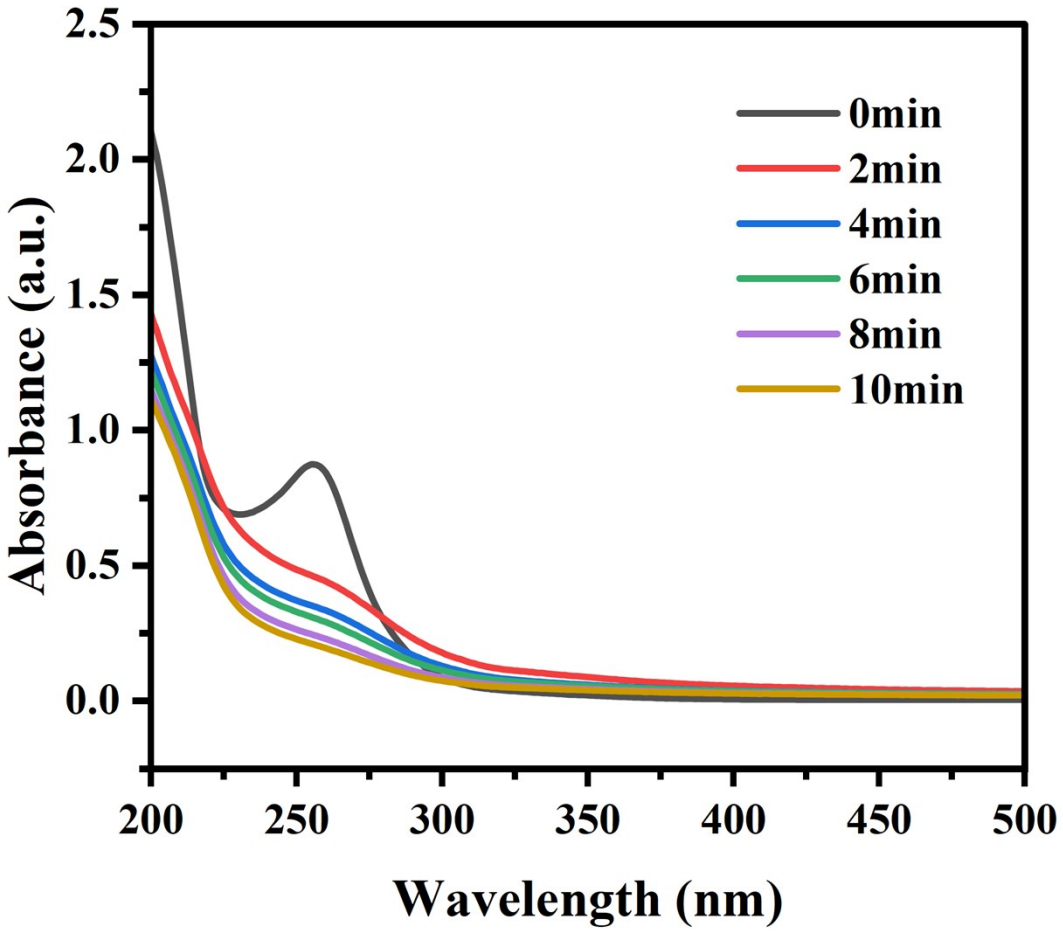


Figure S5. Co-B-O-C-citric acid-300 activates PMS to degrade SMX. Experimental condition: pH=7, PMS =1.8mM, SMX =10 mg/L, catalyst=0.2mg.

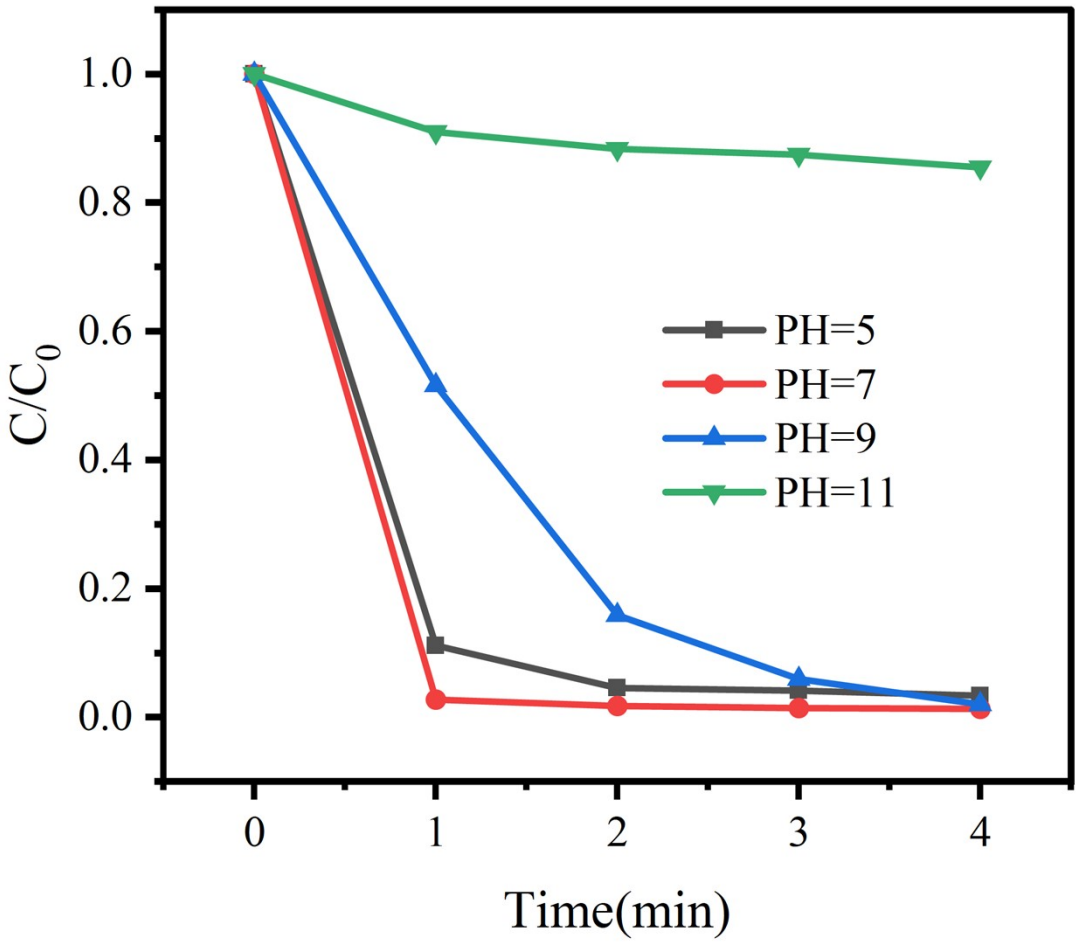


Figure S6. Effect of Co-B-O-C-600℃-Glucose on PNP degradation under different pH conditions, PMS = 1.8 mM, PNP = 0.09 mM, and Co-B-O-C-600℃-Glucose = 0.2 mg.

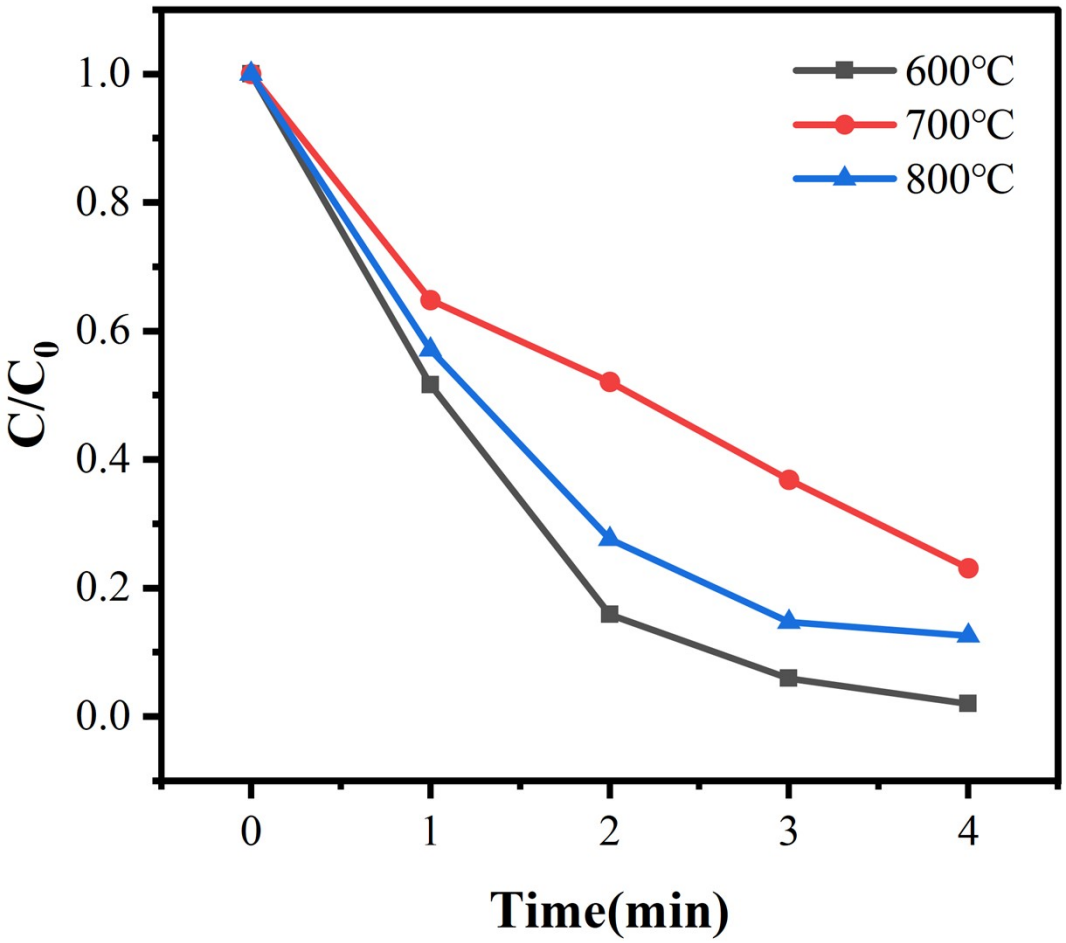


Figure S7. Degradation of PNP by Co-B-O-C -Glucose catalysts at different calcination temperatures, pH = 9, PMS = 1.8 mM, PNP = 0.09 mM, and Co-B-O-C-Glucose = 0.2 mg.

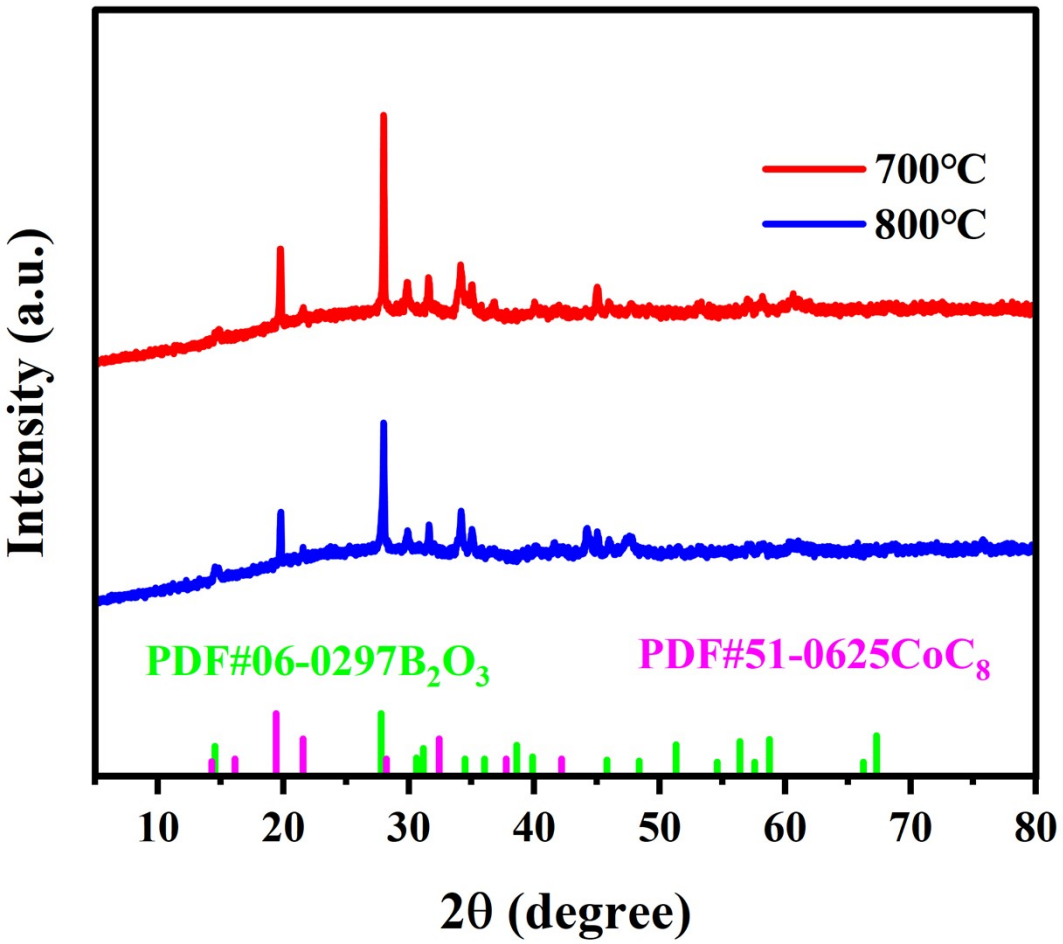


Figure S8. XRD profiles of Co-B-O-C-Glucose catalysts prepared at 700 and 800 °C.

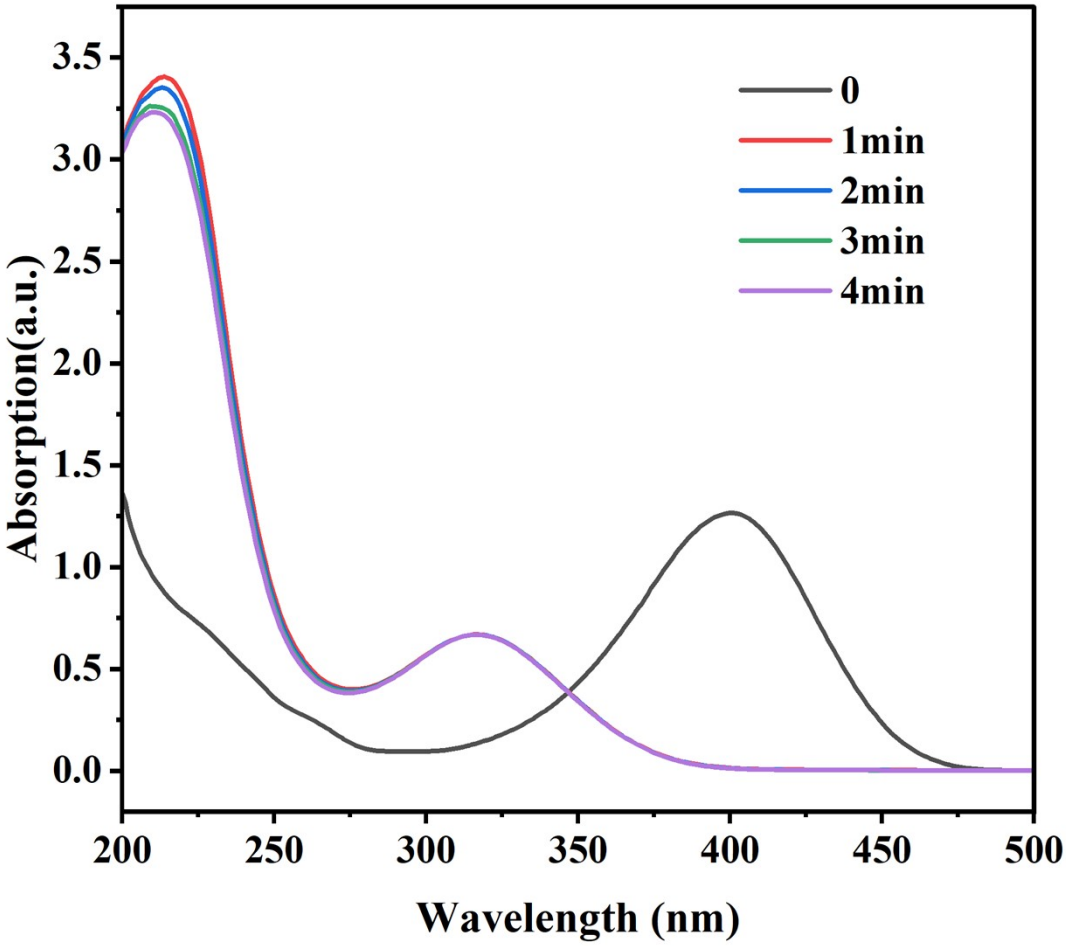


Figure S9. B-O-C- Citric acid without Co in the raw material degrades PNP. pH = 7, PMS = 1.8 mM, PNP = 0.09 mM, and B-O-C- Citric acid = 0.2 mg.

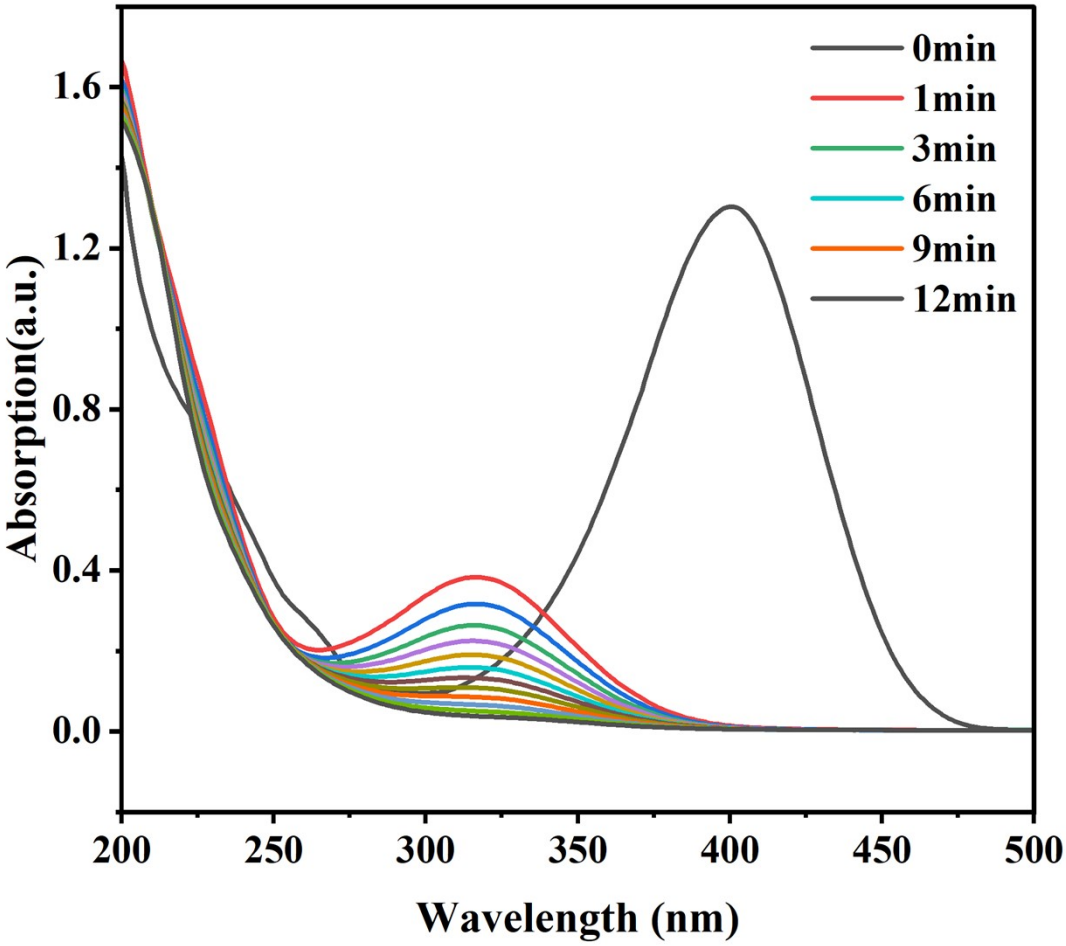


Figure S10. Co-O-C- Citric acid without B in the raw material degrades PNP. pH = 7 PMS = 1.8 mM, PNP = 0.09 mM, and B-O-C- Citric acid = 0.2 mg.

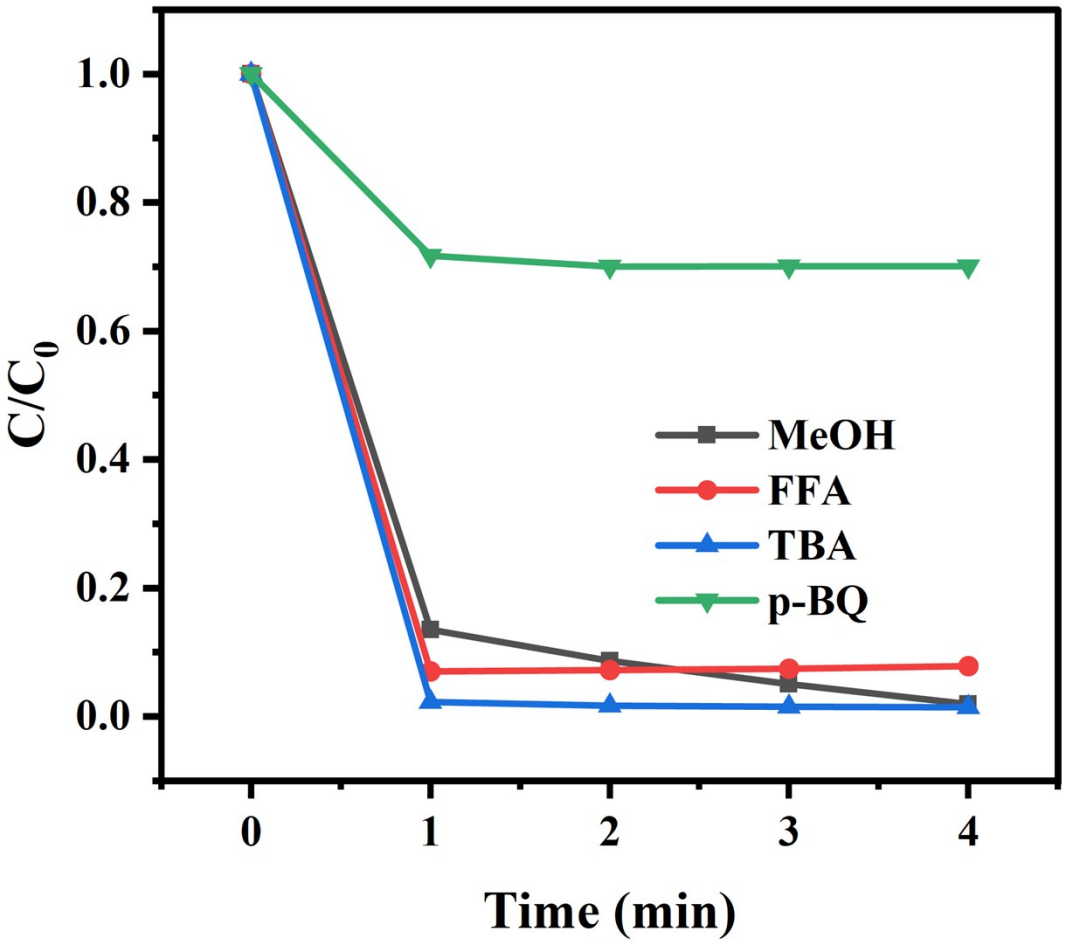


Figure S11. Radical quenching experiment of Co-B-O-C-300℃-Citric acid. pH = 9, PMS = 1.8 mM, PNP = 0.09 mM, catalyst = 0.2 mg, quencher = 36 mM.