

In this thesis catalytic properties of copper on cobalt oxide substrate were researched. Two samples were prepared - one by sputtering copper on oxidized cobalt substrate and one by removing surface layers from the first for reference. Both samples were exposed to gas beams of carbon dioxide CO₂ and hydrogen H₂ and with mass spectroscopy the amount of products was monitored under different temperatures in the range of 300–740 K. The sample with copper nanoparticles present shows higher reactivity and at higher temperatures selectivity towards formaldehyde.