

# **Supplementary material**

## **A sustainable carbon material from Kraft black liquor as nickel-based electrocatalyst support for ethanol electro-oxidation**

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## Estimated cost of the electrocatalyst

**Table ST1.** Cost of the reagents used in the electrocatalyst synthesis.

Chemical Reagent	Cost per gram (EUR/g)*	Reagent mass used in the synthesis (g)	Cost per synthesis (EUR)
Resorcinol	0.54	15.0	8.1
Formaldehyde (37 wt.% aqueous solution)	0.02	44.0	0.9
Ni(NO <sub>3</sub> ) <sub>2</sub> .6H <sub>2</sub> O	1.56	7.4	11.5
<b>Total cost per synthesis (EUR)</b>			<b>20.5</b>

\*All prices were determined from Sigma-Aldrich. Products number: 398047-500G; 8187085000; 72252-250G.

After polymerization and washing process, a mass of 52.79 g of dry sample is obtained. The subsequent yield, after carbonization/activation step, is 13 % (w/w), producing a total mass of the Ni/CBLRFA electrocatalyst for each synthesis of 6.86 g. Thus, the cost of the synthesized electrocatalyst, based only in the reactants, is 3.0 EUR/g.