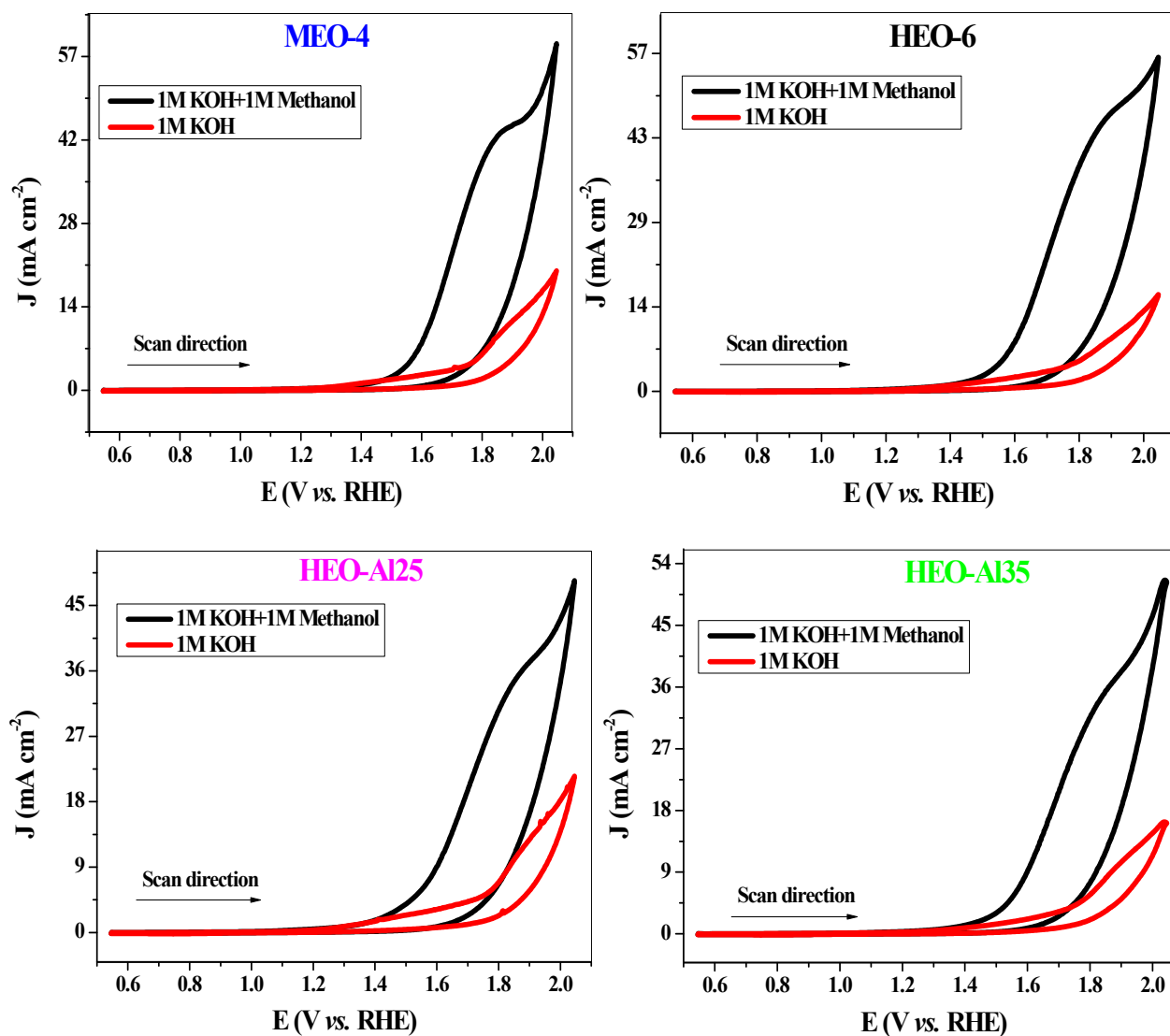
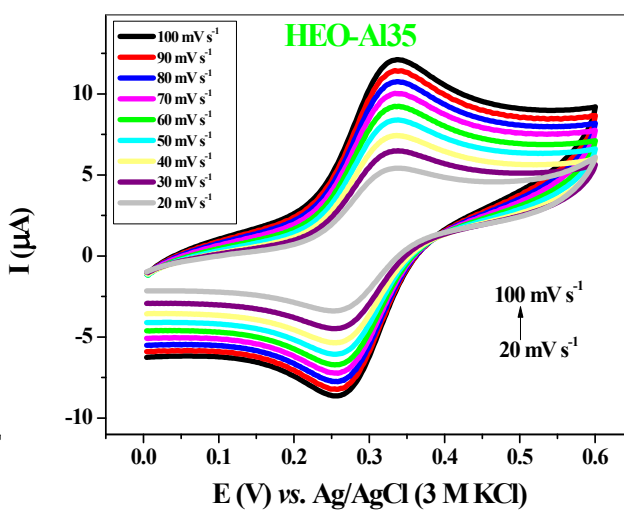
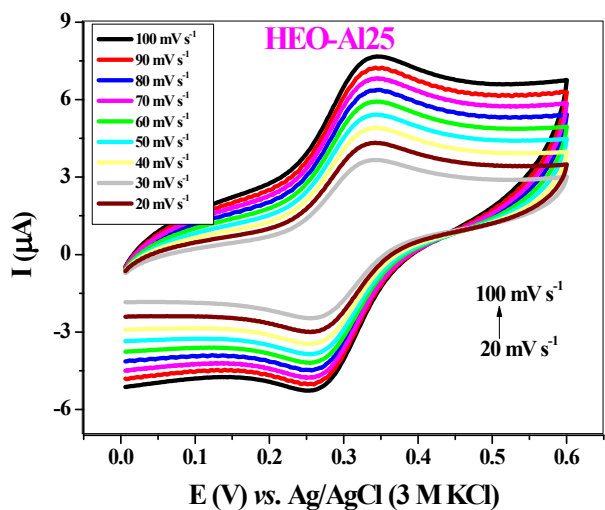
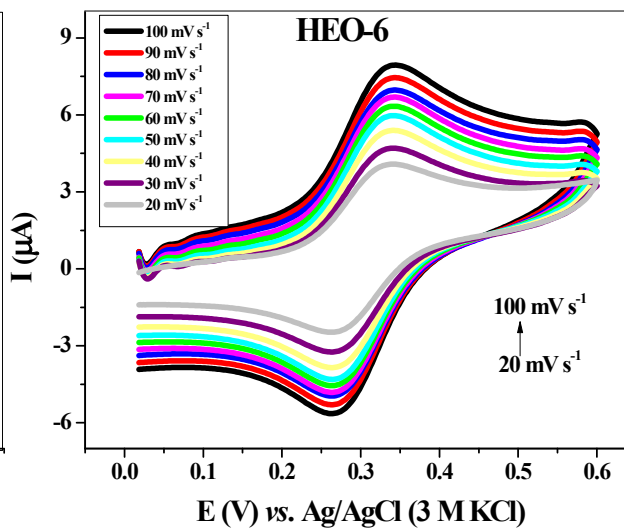
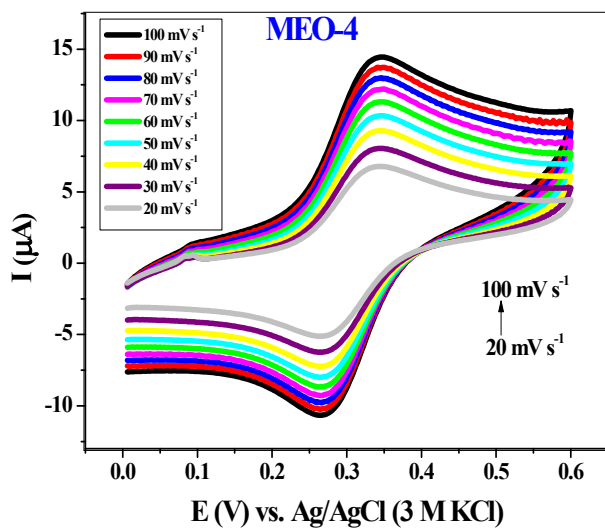


## 1 Supplementary data

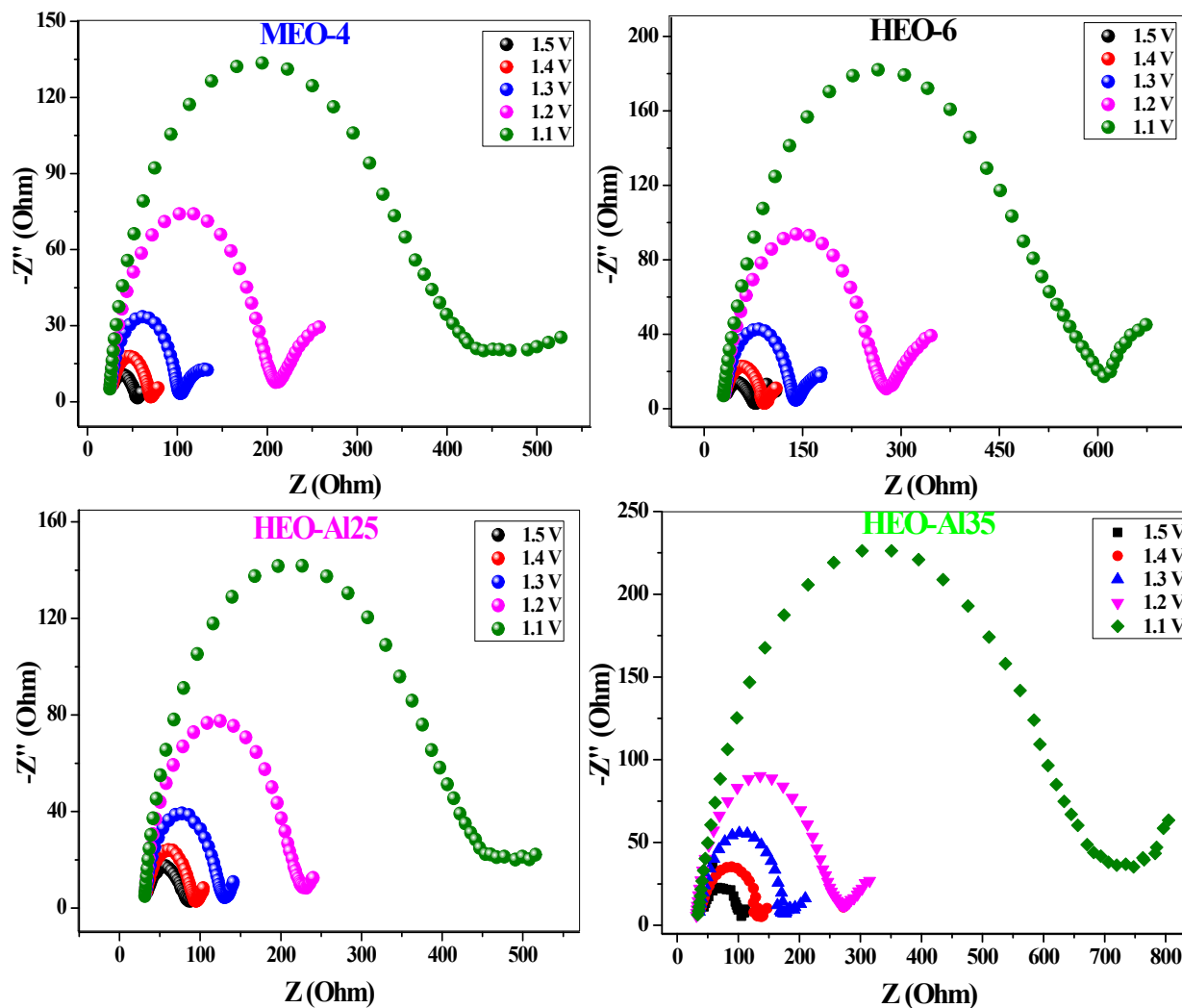
### 2 OER responses of all prepared HEO-modified GC electrode



**Figure S1.** CV responses of all prepared materials in the absence (red) and presence (black) of methanol.



**Figure S2.** CV response of all HEO-modified GC electrode in 1 M KCl+5 mM potassium ferricyanide redox couple at 20-100 mVs<sup>-1</sup> scan rate.



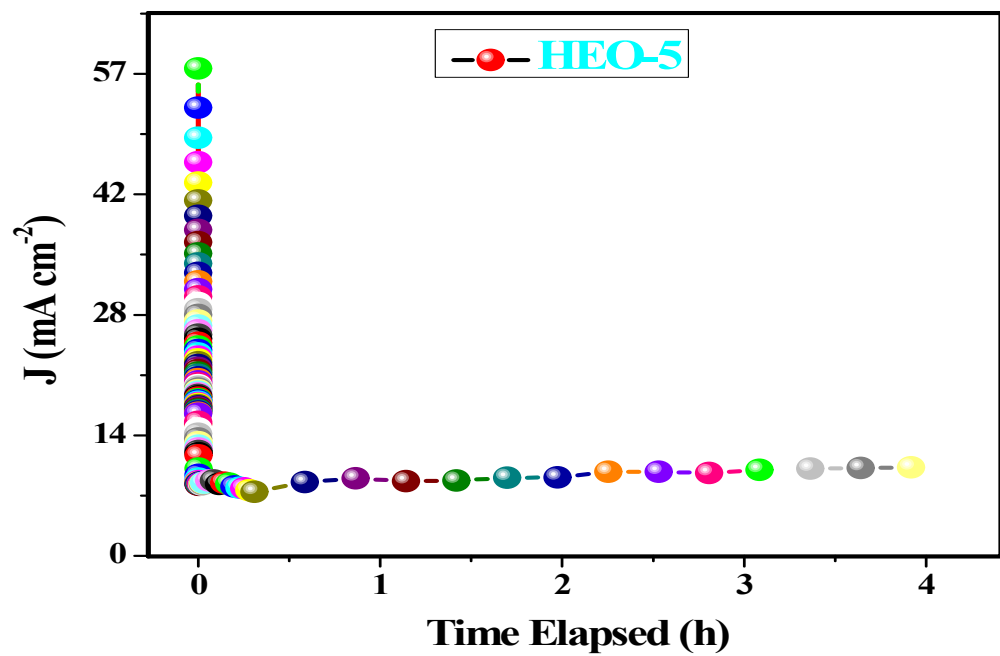
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14 **Figure S3.** Nyquist plots of all HEOs-modified GC electrode at 1.1-1.5 V applied DC voltage.

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18 **Figure S4.** Chronoamperometric response of HEO-5 modified GC electrode in 1 M KOH  
19 recorded for 4 h.

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