

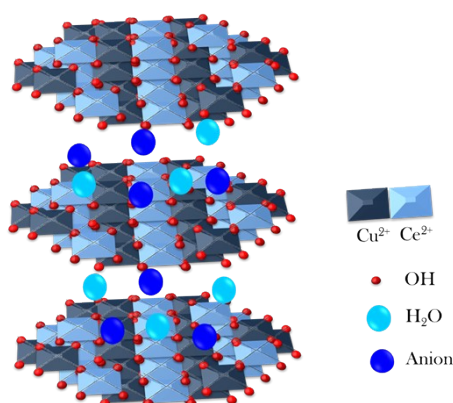
Copper-Cerium Layer Double Hydroxide as a novel tool for Melatonin Detection in Sleep Therapy Tablets

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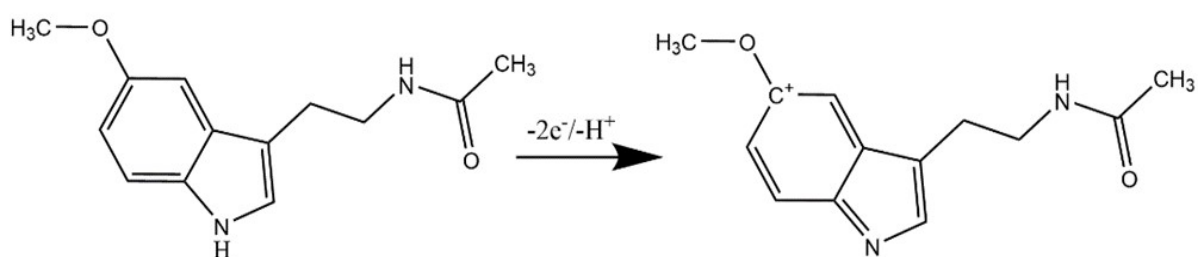
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Scheme S1: Formation of Cu-Ce LDH



Scheme S2: Possible mechanism of Mel in Cu-Ce LDH surface

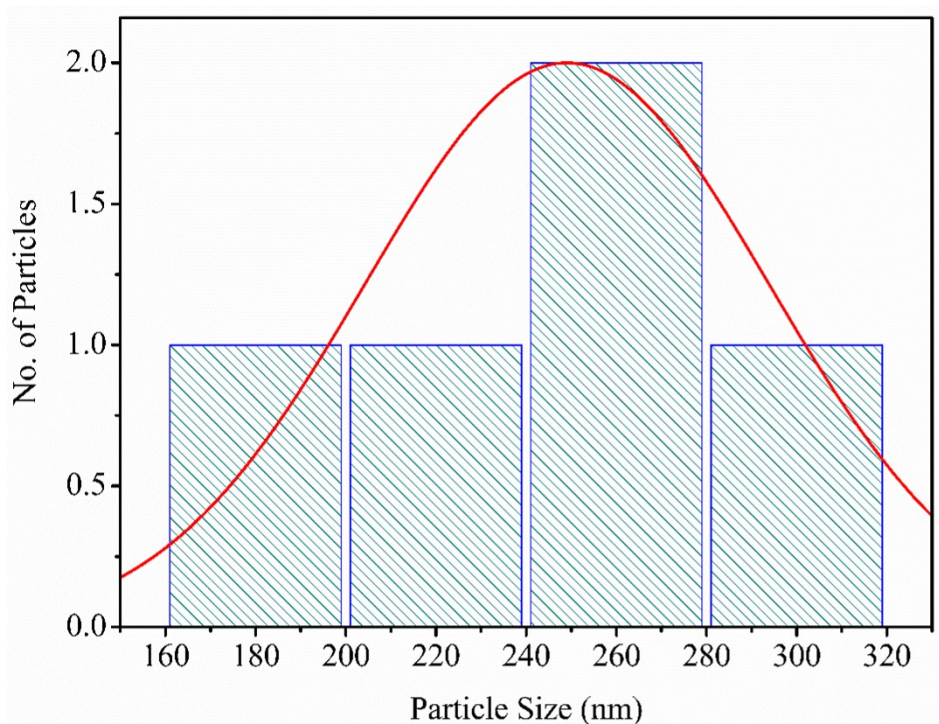


Fig. S1 Histogram of Cu-Ce LDH

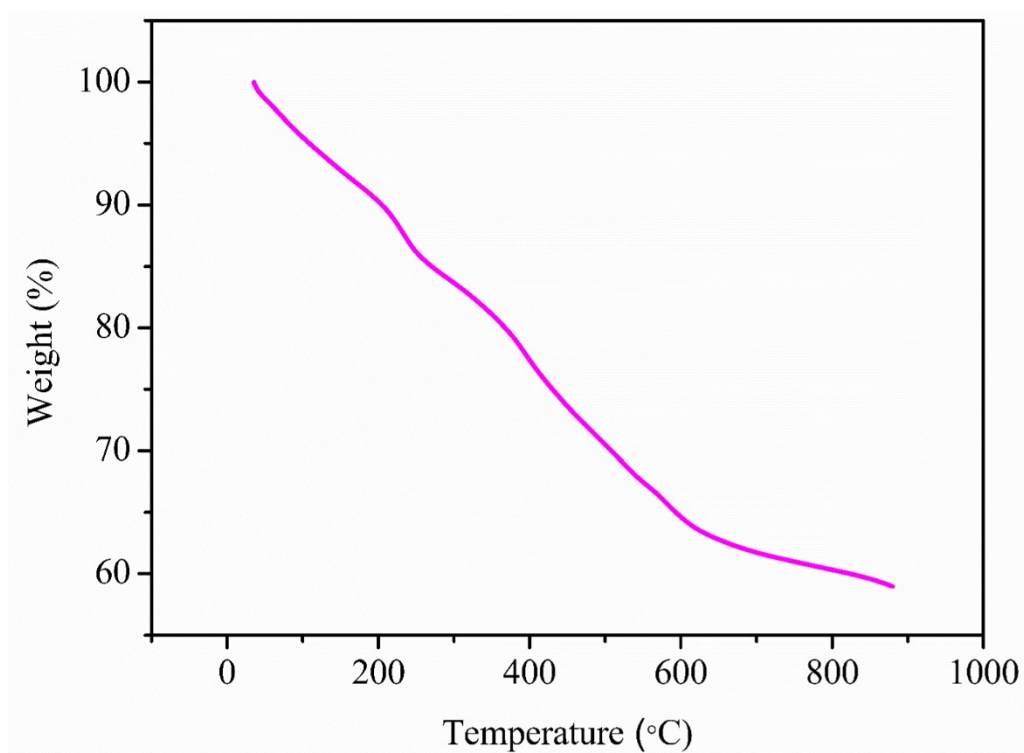


Fig. S2 TGA of Cu-Ce LDH

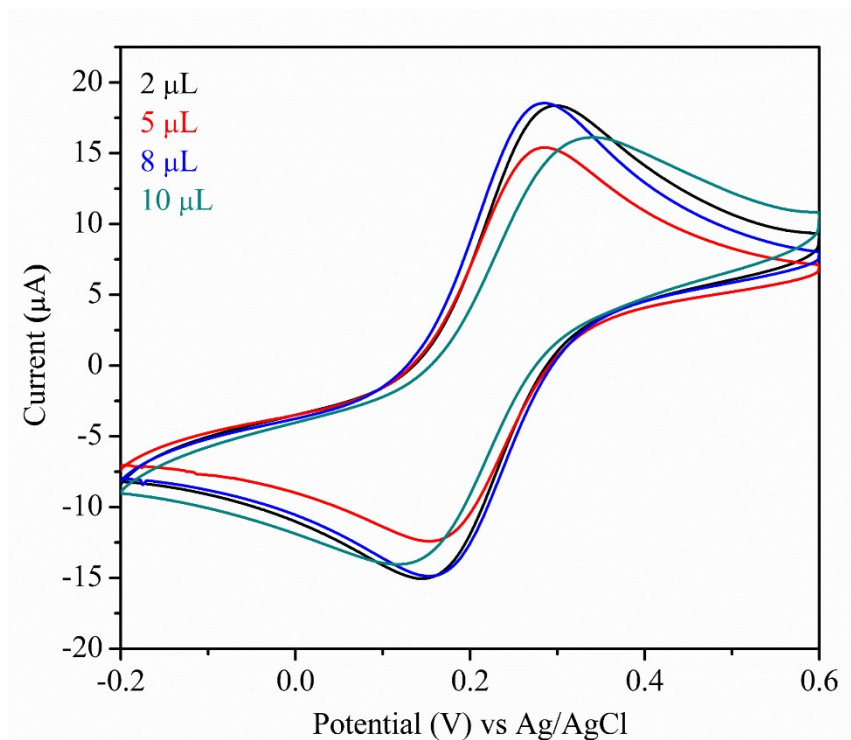


Fig. S3 Different loading ratio of Cu-Ce LDH in 0.1 M KCl containing 1 mM [Fe (CN) $_6$] $^{3-/4-}$ solution.

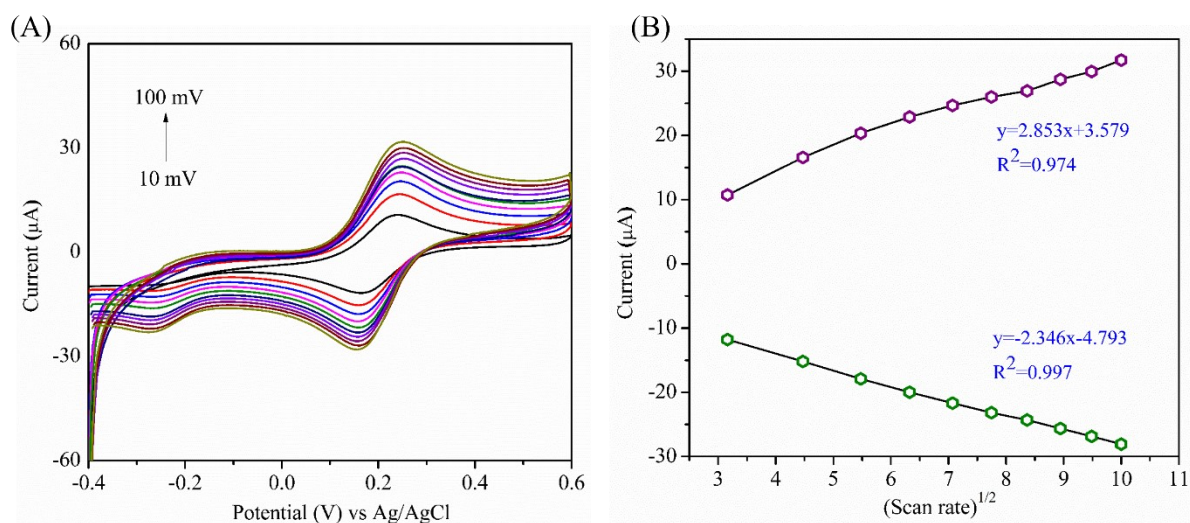


Fig. S4 (A) CV of Cu-Ce LDH at various scan rate (10 mV–100 mV) and (B) its corresponding linear plot of Cu-Ce LDH modified GCE in 0.1 M KCl containing 1 mM [Fe (CN) $_6$] $^{3-/4-}$ solution.

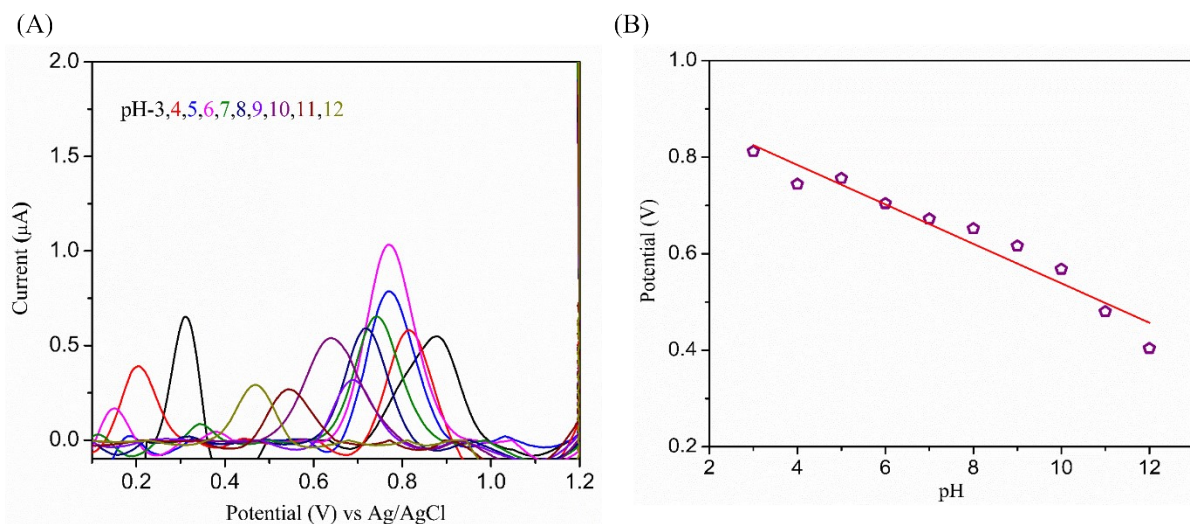


Fig. S5 (A) Various pH of PBS using SWV electrode and (B) Linear plot for pH vs Potential of Cu-Ce LDH modified GCE.

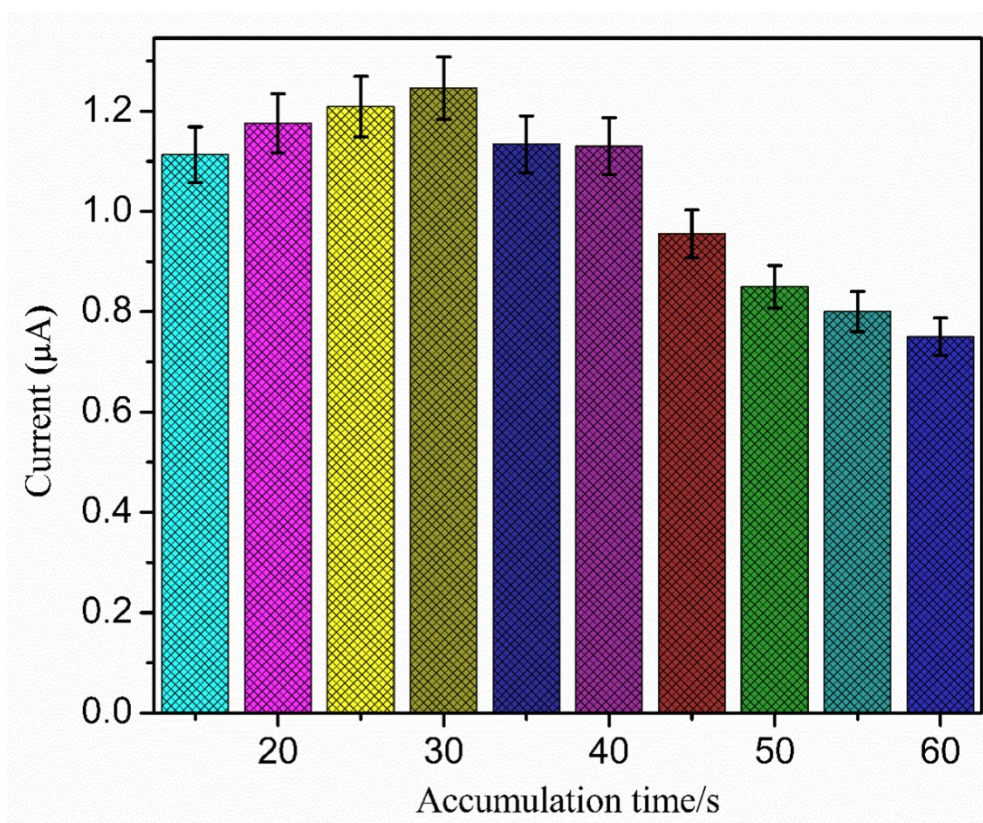


Fig. S6 Accumulation time of Cu-Ce LDH with 100 μM of Nizleep Pills

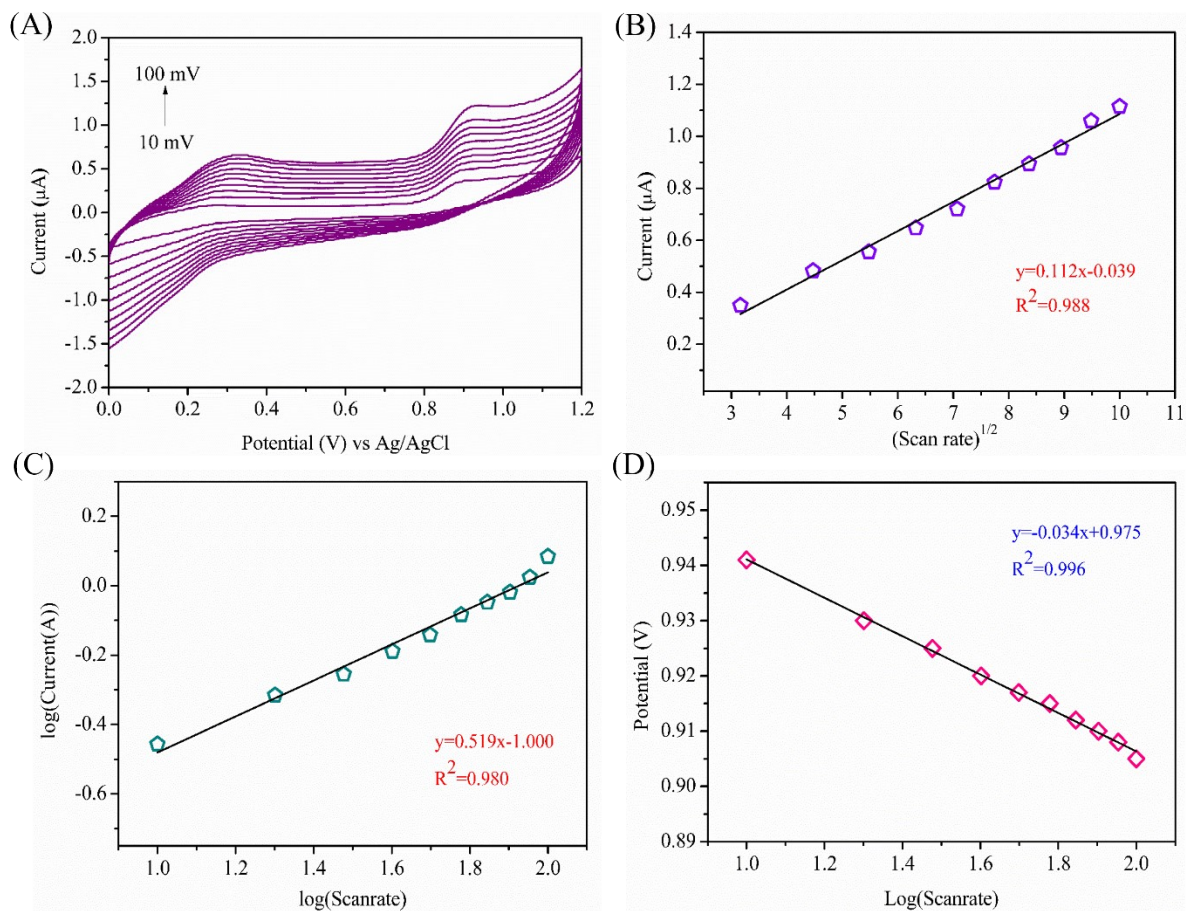


Fig. S7 (A) Different scan rates range (10 mVs⁻¹-100 mVs⁻¹), (B) Linear plot of Different scan rates for the Cu-Ce LDH modified electrode, (C) Linear dependence of the logarithm of the anodic peak current on the logarithm of scan rate for Cu-Ce LDH and (D) Linear dependence of the peak potential on the logarithm of scan rate for Cu-Ce LDH.

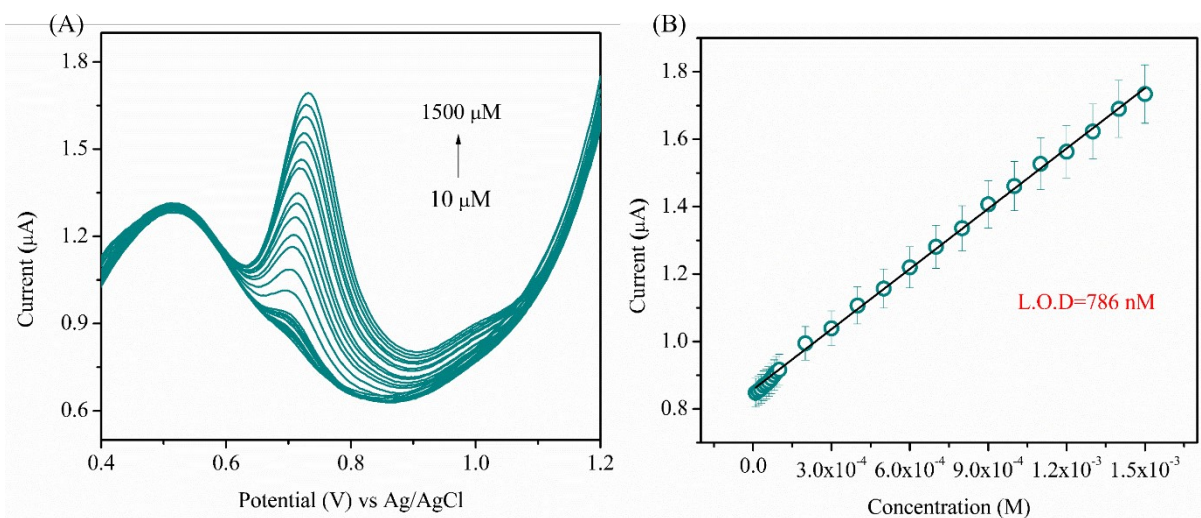


Fig. S8 (A) SWV of the Cu-Ce LDH with varying Somelin Pills concentration (10 μ M-1500 μ M) and (B) calibration curve.

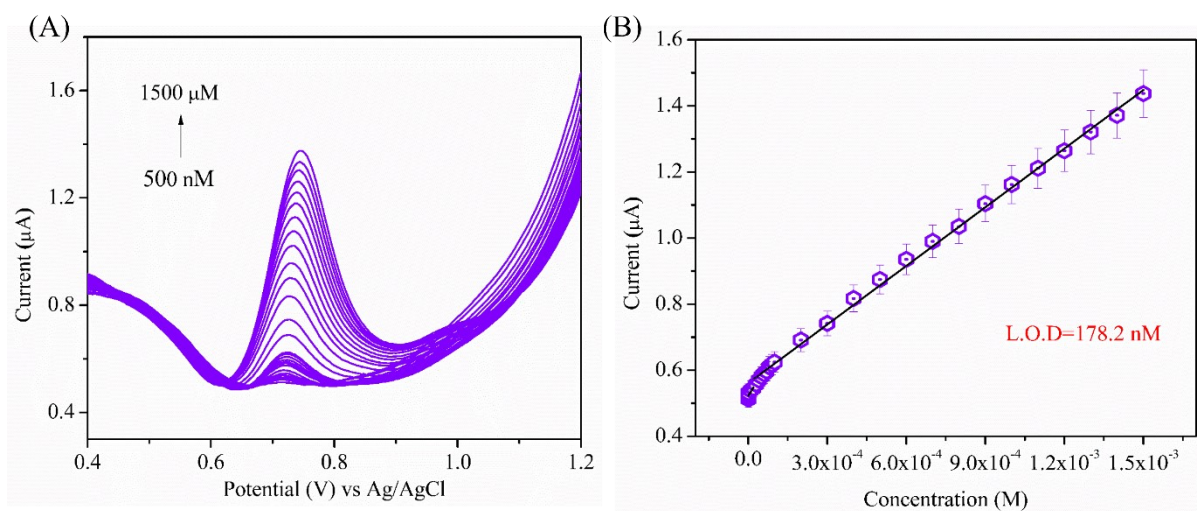


Fig. S9 (A) SWV of the Cu-Ce LDH with varying Meloset Pills concentration (700 nM-1500 μ M) and (B) calibration curve.