

Supplementary Information

Gum Kondagogu/Reduced Graphene Oxide Framed Platinum Nanoparticles and Their Catalytic Role

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Supporting Information Content:

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Figure S5. EDX profile of Pt-RGO.

Figure S6. Plot of $\ln(A_t/A_0)$ versus reaction time of G-Pt of varying concentrations (a) 0.0012, (b) 0.0025, (c) 0.005 and (d) 0.01 g/L

Table S1. Different reaction conditions and concentrations for the optimization of the reaction conditions.

GO concentration (g/L)	PtCl ₄ concentration (mM)	Temperature (°C)	Time (min)	Result
1	1	120	30	Incomplete
1	1	130	30	Incomplete
1	1	140	30	Incomplete
1	1	150	30	Complete
1	1	150	15	Incomplete
1	1	150	30	Complete
1	1	150	60	Complete (no further change)
1	0.25	150	30	Complete
1	0.5	150	30	Complete
1	2	150	30	Complete

**Figure S1:** Specimen of the non-edible grade III gum kondagogu (GK)

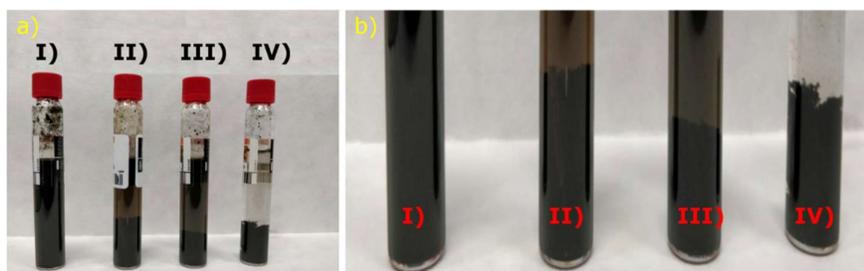


Figure S2. Images of the final products of different temperature (I) 120, (II) 130, (III) 140 and (IV) 150 °C

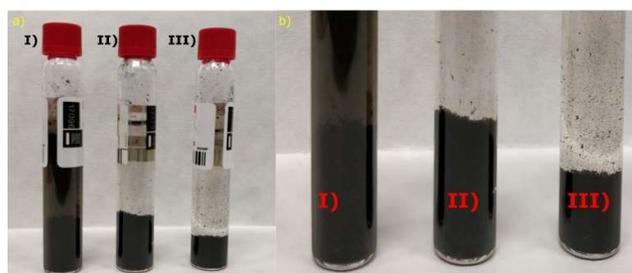
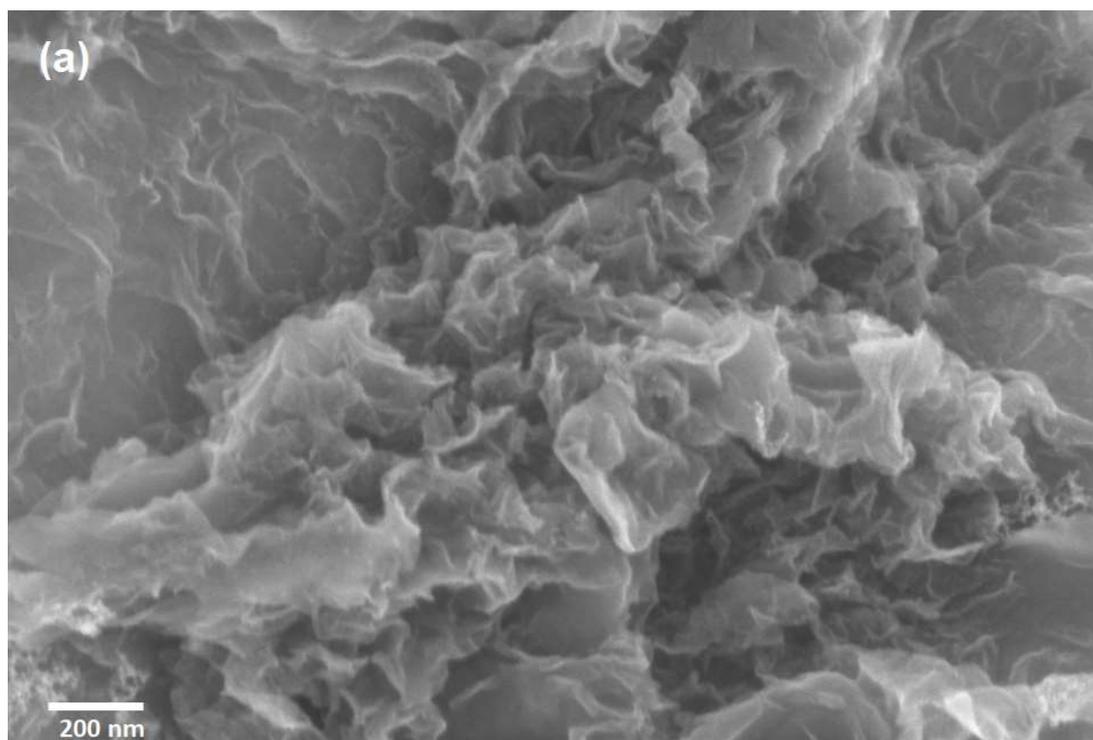
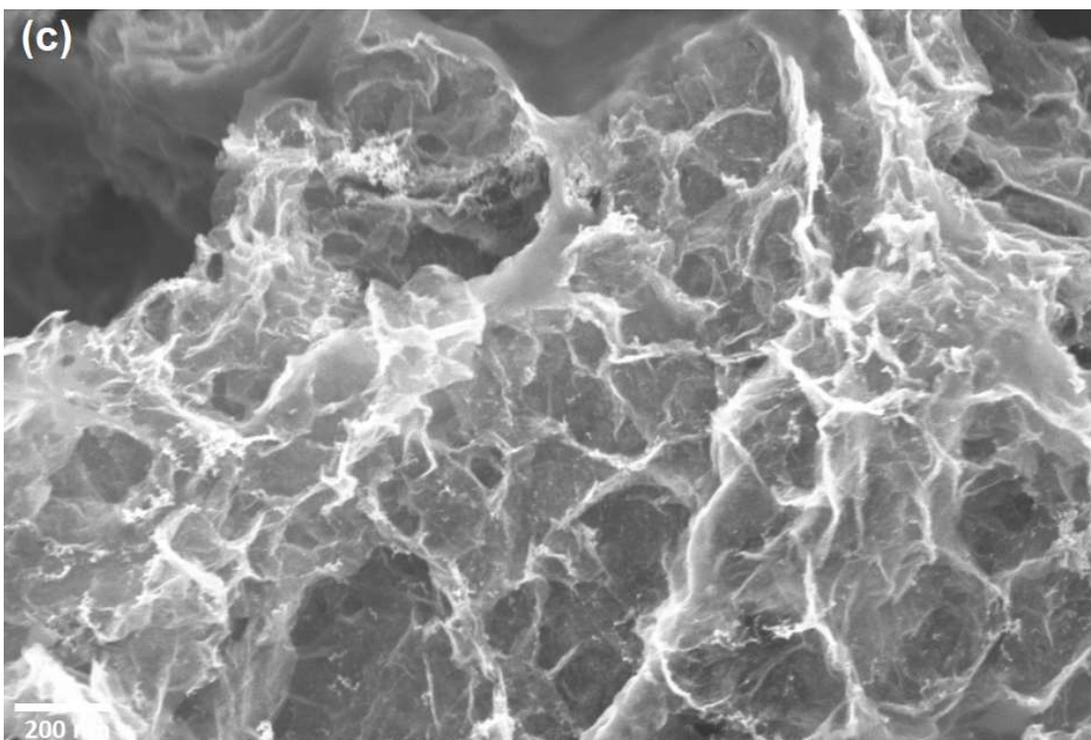
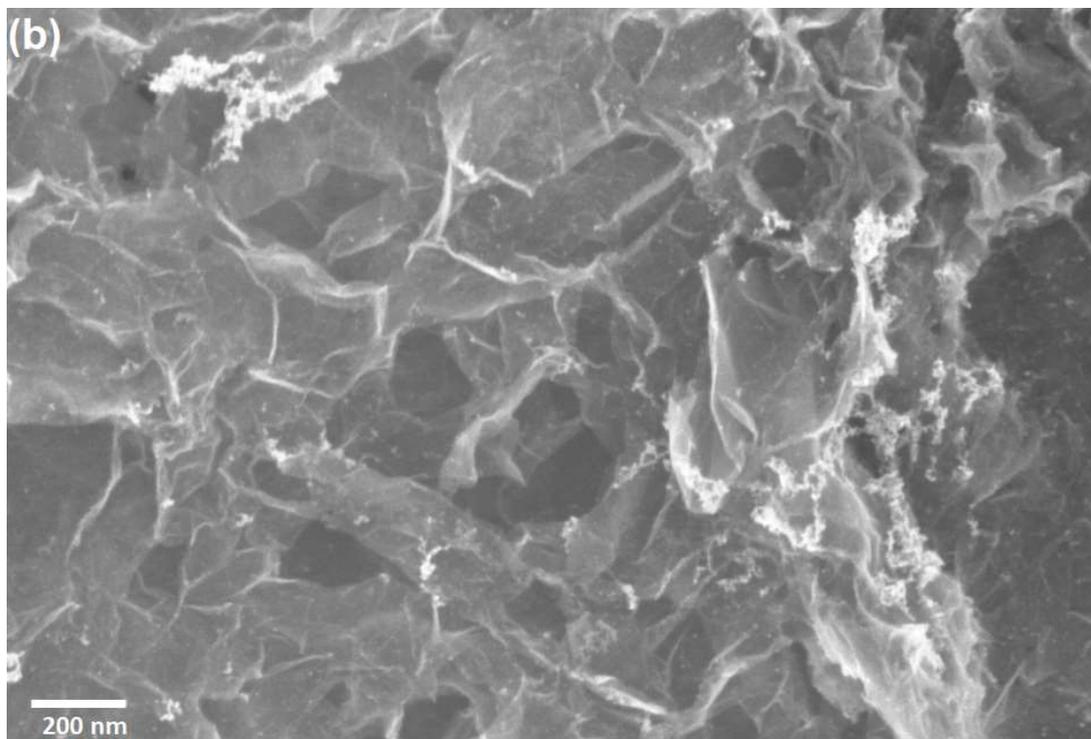


Figure S3. Images of the final products of different time (I) 15, (II) 30 and (III) 60 min.





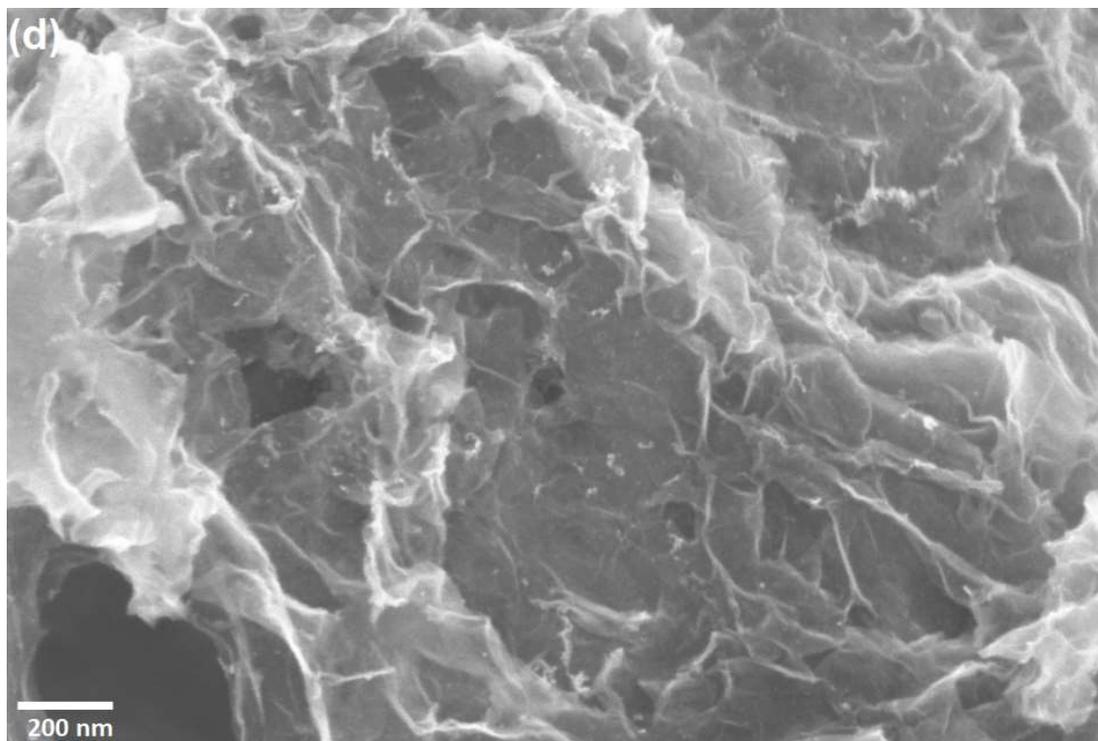


Figure S4. SEM images of Pt-RGO with different PtCl_4 concentration. (a) 0.25, (b) 0.5, (c) 1 and (d) 2 mM

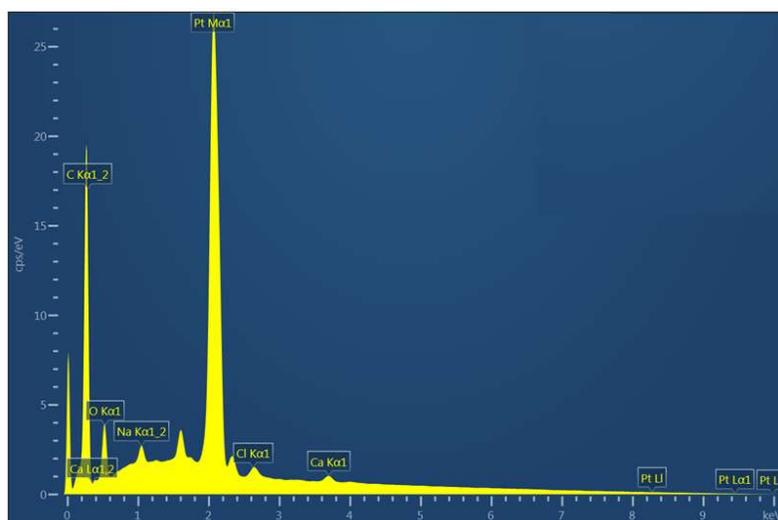


Figure S5. EDX profile of Pt-RGO.

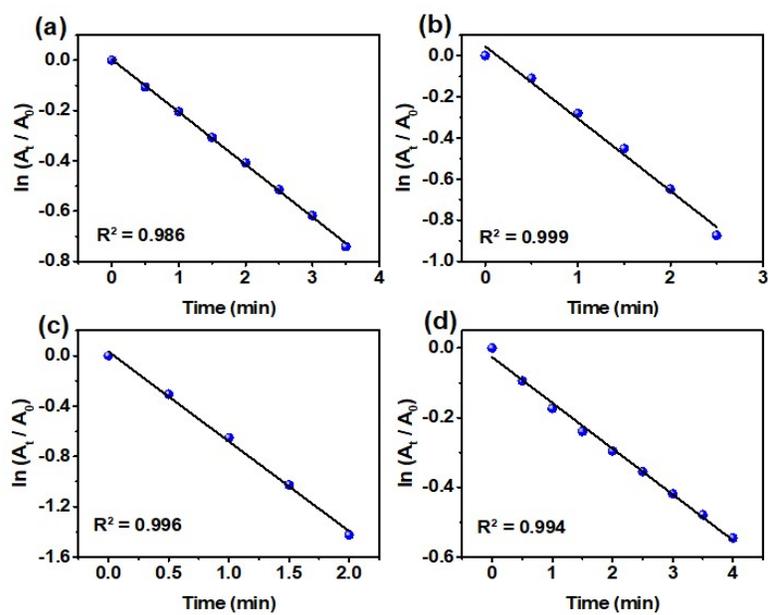


Figure S6. Plot of $\ln(A_t/A_0)$ versus reaction time of G-Pt of varying concentrations (a) 0.0012, (b) 0.0025, (c) 0.005 and (d) 0.01 g/L.