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## **Supplementary**

## Soft template-assisted copper-doped sodium dititanate nanosheets/graphene oxide heterostructure for photoreduction of carbon dioxide to liquid fuels

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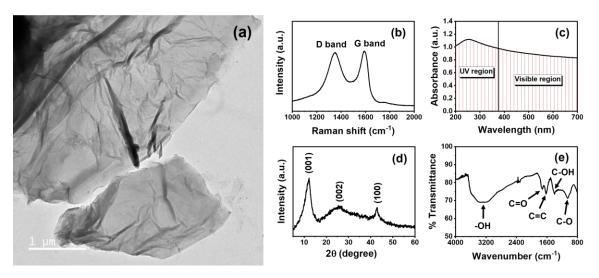
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**Figure S1** Characterizations of graphene oxide (GO); (a) HRTEM image, (b) Raman spectrum, (c) UV-vis spectrum, (d) XRD spectrum, (e) FTIR spectrum of GO.

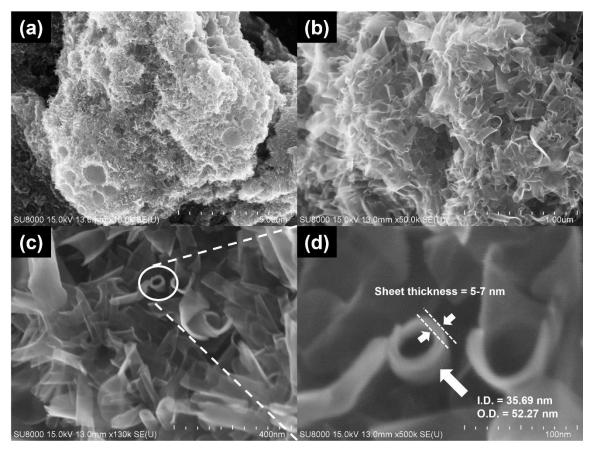
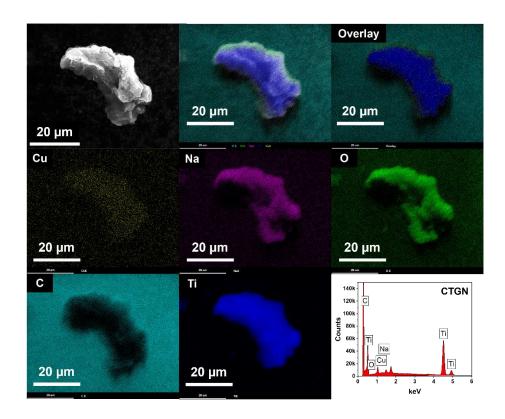


Figure S2 FESEM images showing CTGN: the composite cluster at x10k magnification(a), at x50k magnification (b), at x50k magnification (c), and rolled-TiO<sub>2</sub> nanosheet at x500k magnification with estimated dimension (d).



**Figure S3** EDS analysis of CTGN showing an overlay of designated elements, including Cu, Na, O, C, and Ti (Titanium).

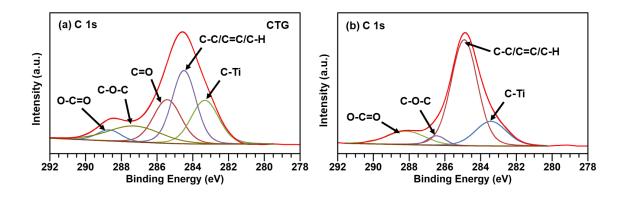
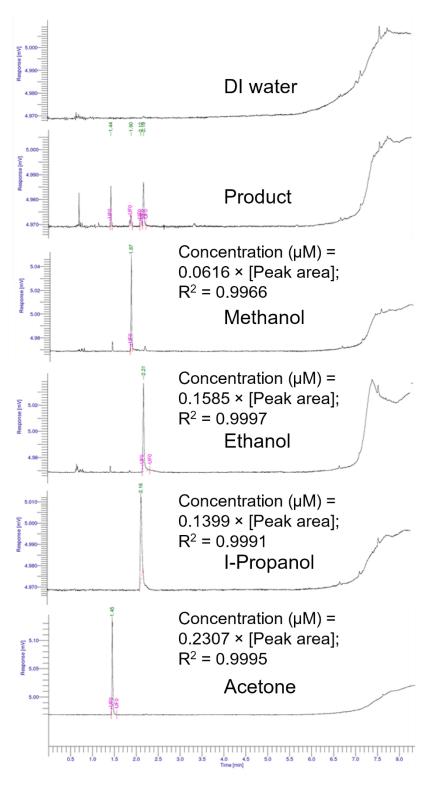


Figure S4 A narrow scan on C 1s of CTG (a) and CTGN (b)



**Figure S5** GC curves showing peaks from a disturbance from DI water (TOP): injection of supernatant from the CO<sub>2</sub> conversion experiment (2<sup>nd</sup> from the top), and a known concentration of acetone (1mM), methanol (1 mM), ethanol (1 mM), and propanol (1 mM).