

Supporting Information

Photocatalytic reduction of carbon dioxide to methanol using ruthenium trinuclear polyazine complex immobilized to graphene oxide under visible light irradiation

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Fig. S1: N₂ adsorption desorption isotherm of (a) GO and (b) GO-Ru complex2

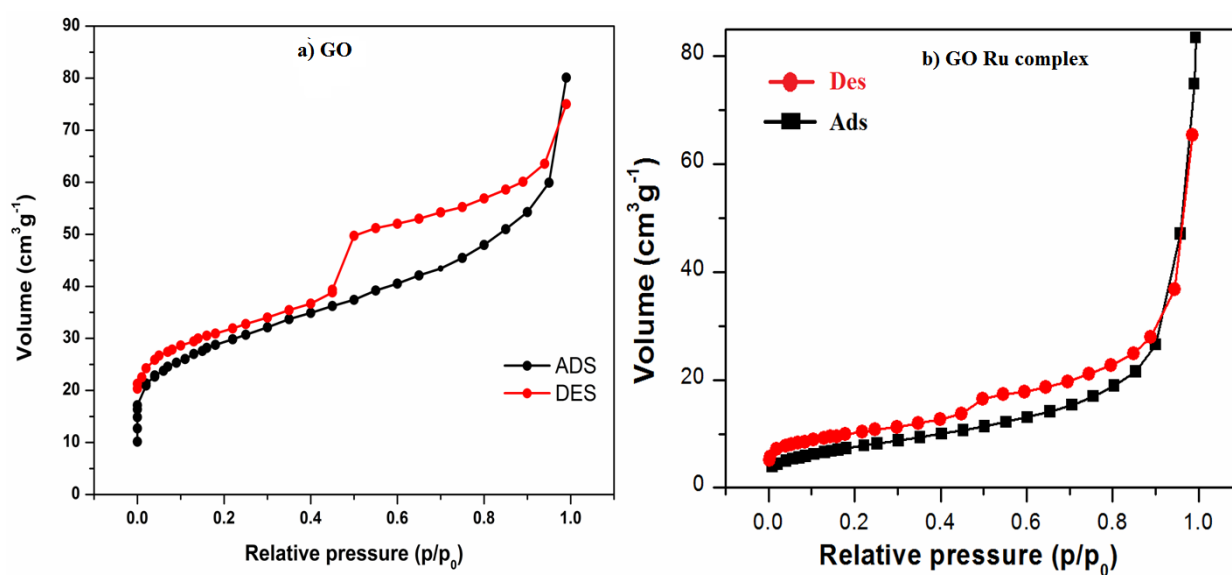


Fig. S2: Pore size distribution of a) GO and b) GO attached complex **2**

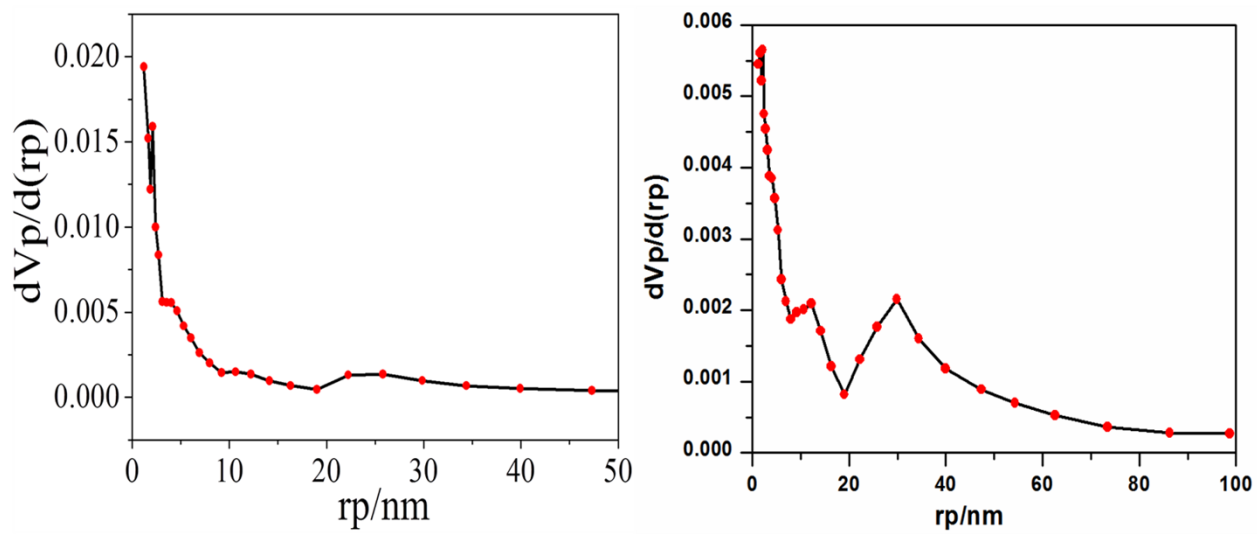


Fig. S3. ^1H -NMR of Ruthenium trinuclear complex1 in DMSO-d_6

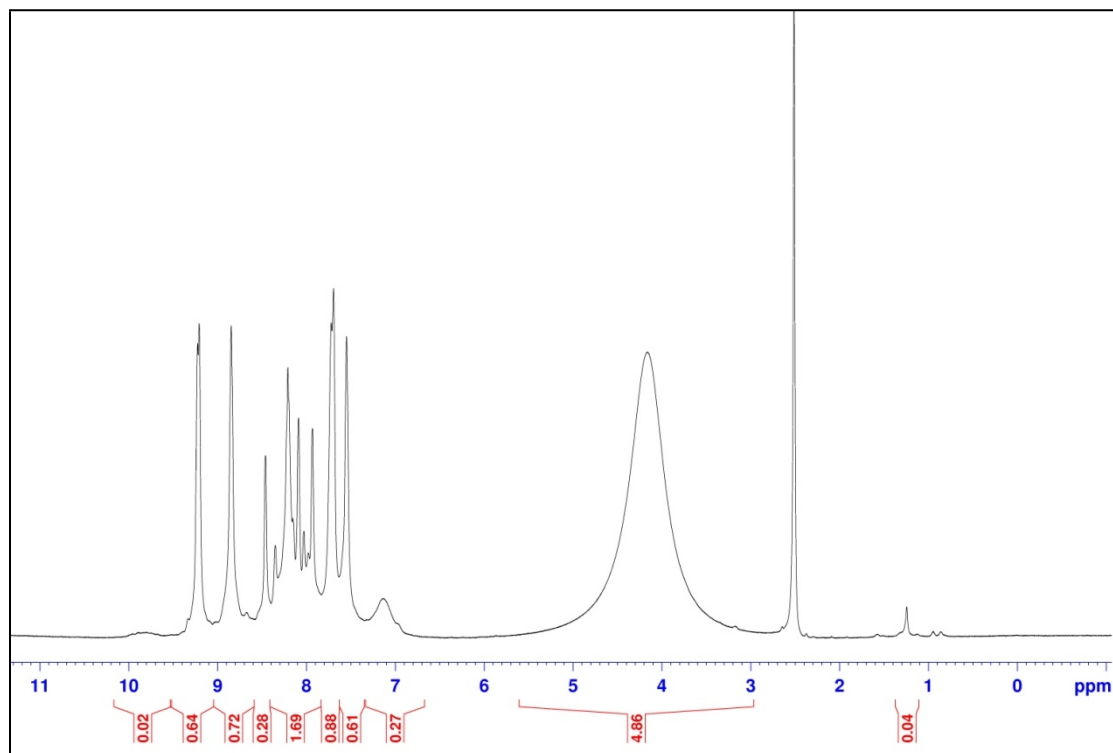


Fig. S4: ^{13}C -NMR ruthenium complex1 in DMSO-d_6

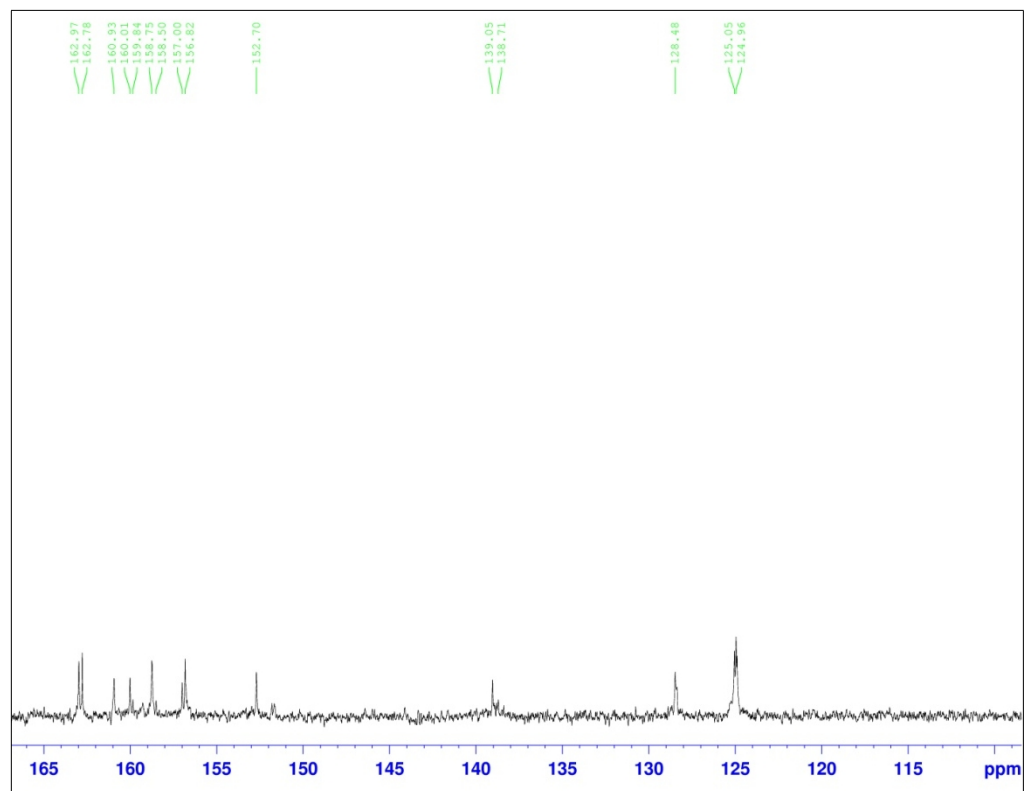
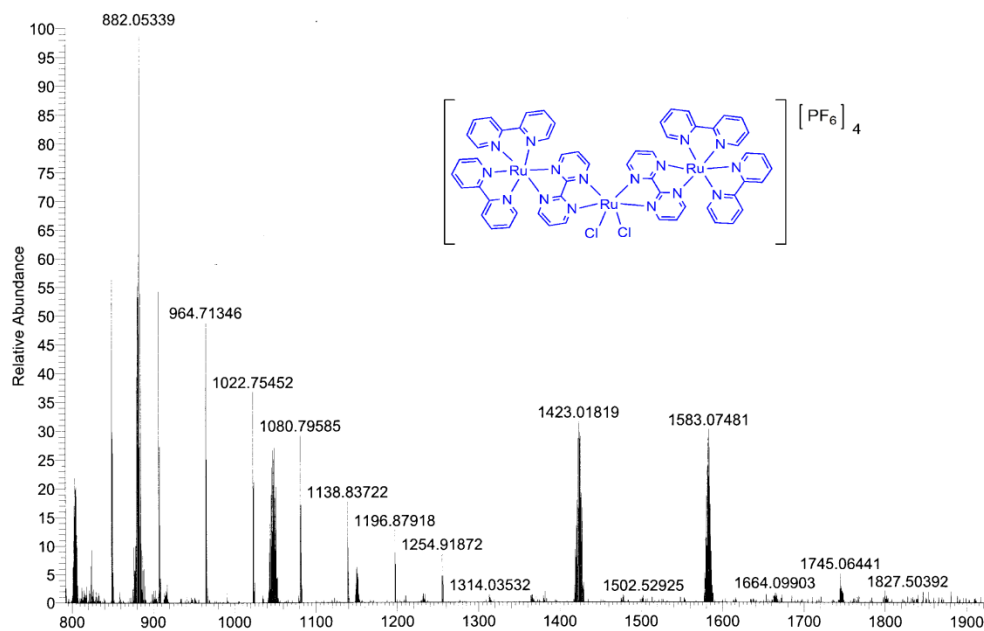


Fig. S5: ESI-Mass spectra of ruthenium trinuclear complex **1**



Supporting Fig. S6: ESI-Mass spectra of ruthenium trinuclear complex **1** Expanded form

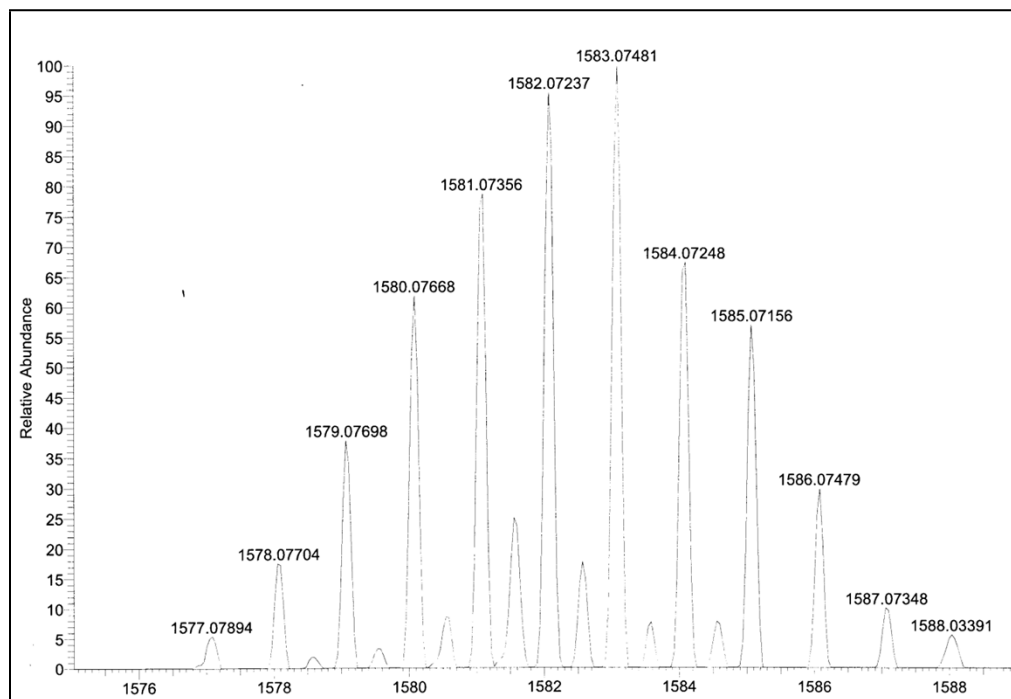


Fig. S7: Calibration curve for methanol quantification

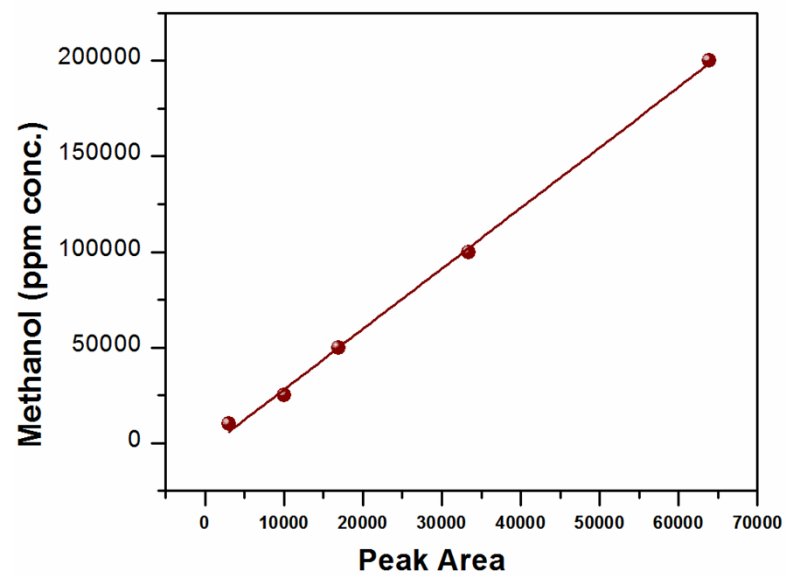


Fig. S8: GC chromatogram of the reaction product after 48 h of photoreduction of CO₂

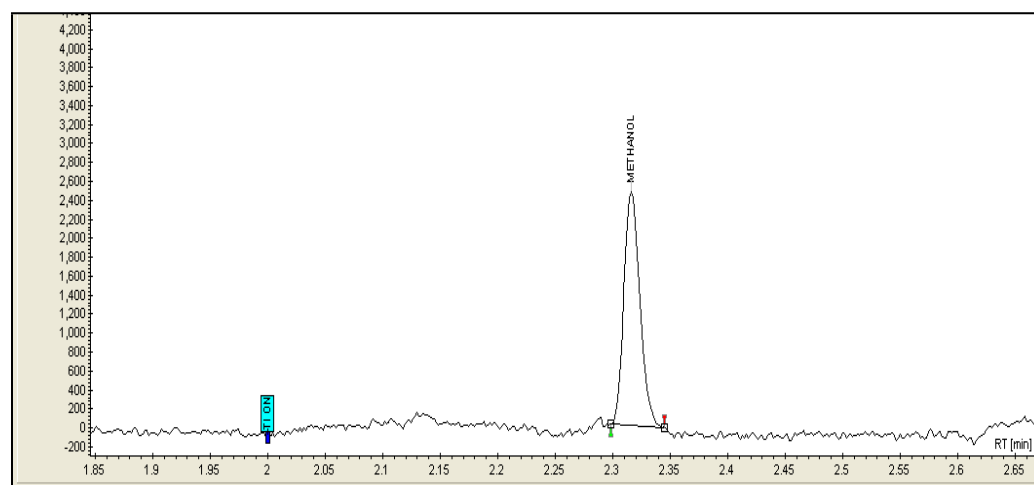


Fig. S9: GC-MS spectra of methanol produced by photocatalytic reduction of $^{12}\text{CO}_2$ or $^{13}\text{CO}_2$: a) GC-MS chromatogram at m/z 32 under $^{12}\text{CO}_2$; b) GC-MS chromatogram at m/z 33 under $^{13}\text{CO}_2$

