

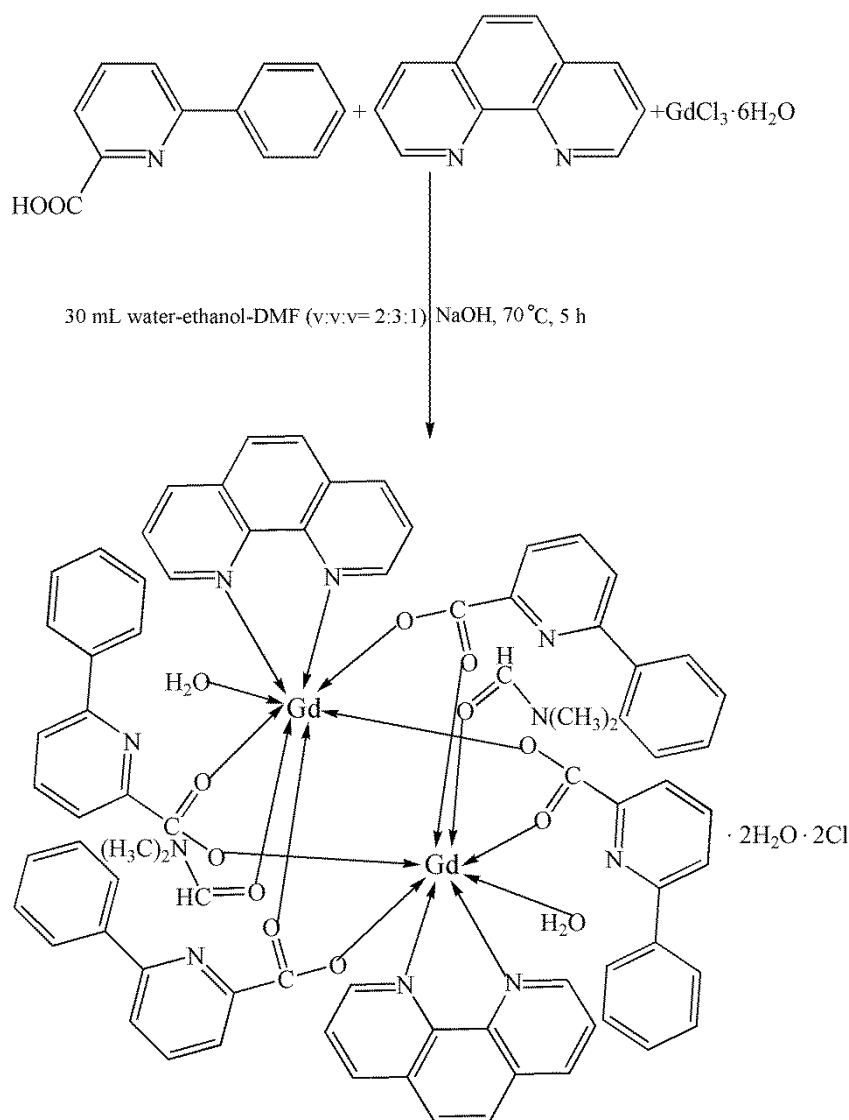
Synthesis, Structural Characterization, Hirschfeld Surface Analysis and Photocatalytic CO₂ Reduction Activity of a New Dinuclear Gd(III) Complex with 6-Phenylpyridine-2-carboxylic acid and 1,10-Phenanthroline Ligands

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The synthetic route for complex (1) is shown in Schemes S1.



Scheme S1. Synthetic route for complex (1).

The method of the yield calculation is following:

1. mL of the gas has been got out every hour and tested via a gas chromatograph. The peak area of the product was obtained. Subsequently, we quantified the number of moles

of per peak area via using the CO and CH₄ standard gases, which is noted as Y_{1CO} and Y_{1CH₄}, respectively. The total amount of CO and CH₄ is calculated according to the equation below.

$$Y_{CO} = \frac{Y_{1CO} \times S_{CO} \times Sr}{m} \text{ and } Y_{CH_4} = \frac{Y_{1CH_4} \times S_{CH_4} \times Sr}{m}$$

S_{CO} and S_{CH₄} is the peak areas of CO and CH₄, which was measured using the gas chromatograph. Sr is the reactor volume.

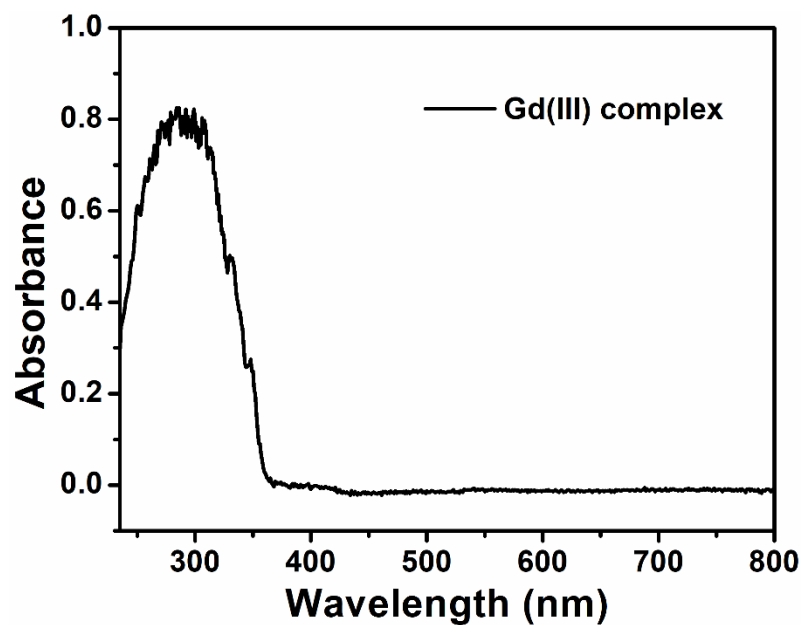


Figure S1. UV-vis absorption spectrum of complex (1).