of graphene, and then cooling to room temperature at a rate of 5°C/min to obtain tea leaf dregs graphene;

3) preparing tea leaf dregs graphene-CuCeMOF composite: taking $CeCl_3 \cdot 7H_2O$ and 2,2'-bipyridine-5,5'-dicarboxylic acid and adding to a 100 mL PTFE-lined hydrothermal reactor, adding to a mixed solvent of DMF and DMSO in turn, stirring evenly with a glass rod at room temperature, transferring the PTFE-lined hydrothermal reactor to an oven, heating up to 110-140°C within 3 hours, keeping for 9-18 hours, and cooling to room temperature at a cooling rate of 3°C/h to obtain a light yellow precipitate, washing and centrifuging the precipitate twice with DMF, soaking in dichloroethane for 8-12 h, and centrifuging; and placing the same in a vacuum drying oven and setting the drying temperature to 80-90°C, and drying for 12-24 hours to obtain CeMOF; and

adding copper acetate and tea leaf dregs graphene to CeMOF, fully stirring for 12 h to allow CeMOF and Cu^{2+} to reach adsorption equilibrium, then centrifuging the mixture, washing twice with a DMAC solvent, centrifuging to remove the residue Cu^{2+} on the surface of the complex CeMOF, such that the originally light yellow complex CeMOF presents a gray blue color;

adding the gray blue complex CeMOF to a mixed solvent of DMAC and DMSO, adding a molar amount of glucose, placing the PTFE liner in a stainless steel hydrothermal reactor, with a heating temperature of 110-140°C, a holding time of 12 -24 h, and a cooling time of 12 h, and cooling to room temperature, washing the product with the DMAC solvent, and then centrifuging at a high speed (9600 rpm) with a centrifuge five times with 15 minutes each time, and finally, placing the product in the vacuum drying oven at a temperature of 80-100°C and drying for 12-24 hours to obtain the tea leaf dregs graphene-CuCeMOF composite; and

4) preparing the tea leaf dregs graphene-CuCeMOF-PVB composite material: mixing the PVB ethanol slurry and the tea leaf dregs graphene-CuCeMOF composite fully to obtain the tea leaf dregs graphene-CuCeMOF-PVB composite material.

FIG. 1 shows a Raman spectrum of tea leaf dregs graphene, in which a D peak is around $1365cm^{-1}$, a G peak appears at $1685cm^{-1}$, and the stacking method of graphene appears at a 2D peak at $2685cm^{-1}$.

Instrument name: Micro Raman spectrometer, model: LabRAM Aramis, Manufacturer: