Supplementary Information

Engineering biomimetic graphene nanodecoys camouflaged with EGFR/HEK293 cell membrane for targeted capture of drug leads

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Samples preparation for TEM:

1. Use 300 mesh carbon coated grids.

2. Prepare GO, MGO, and CMMGO solution and ultrasonic dispersed evenly. (GO and MGO were dispersed in ethanol at a concentration of 0.1 mg mL^{-1}, while CMMGO was dispersed in water at the same concentration.)

3. Place a drop (approx. 20 μL) of GO, MGO, and CMMGO solution on the grid, respectively.

4. Dry overnight in a Petri dish and view the next day in TEM.

Confocal laser scanning microscopy:

The lipid bilayer of the CM was labeled with 1,1′-Dioctadecyl-3,3,3′,3′-tetramethylindocarbocyanine perchlorate (DiI) by mixing at 4°C in the dark for 40 min. Subsequently, MGO was incubated with DiI-labled CM for 10 min, and then washed with PBS for three times to remove excessive CM. Meanwhile, the labeling process of NMMGO was the same procedure described above. For DiI imaging, the excitation wavelength and emission wavelength were 549 and 565 nm, respectively.

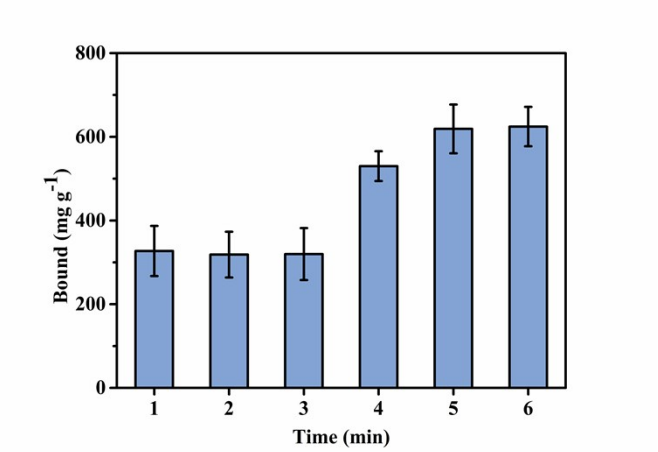

Fig. S1 Optimization of the preparation time.

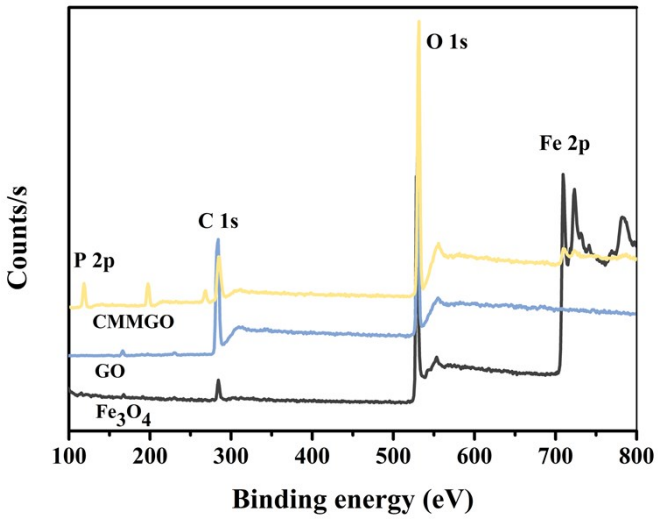

Fig. S2 XPS patterns of Fe_3O_4, GO, and CMMGO.

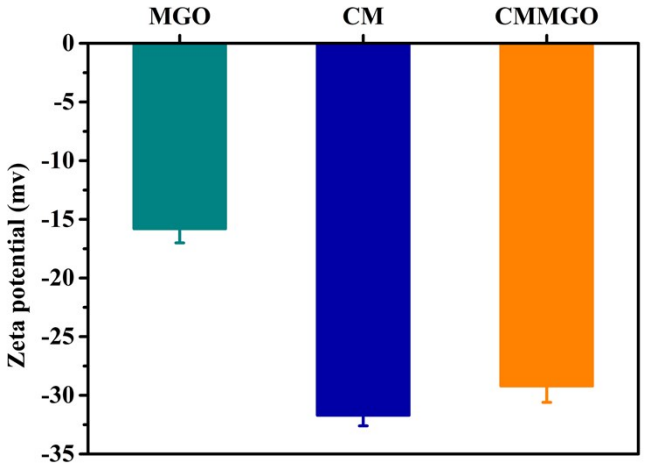

Fig. S3 Zeta potential results of MGO, CM, and CMMGO.

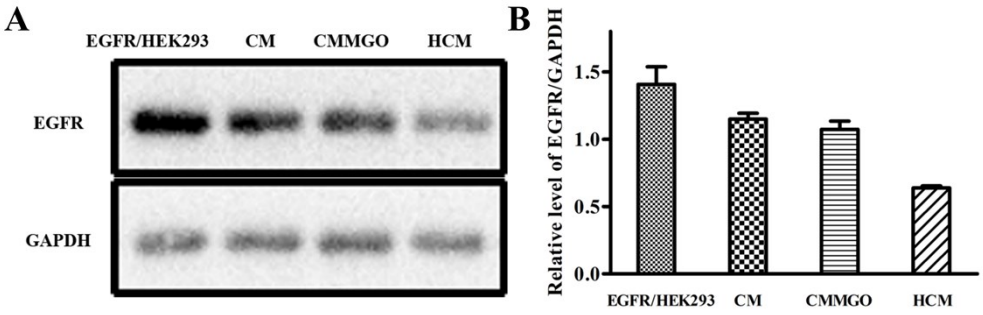

Fig. S4 (A) The content of EGFR on EGFR/HEK293 cell, CM, CMMGO, and HCM. (B) The relative level of EGFR/GAPDH.

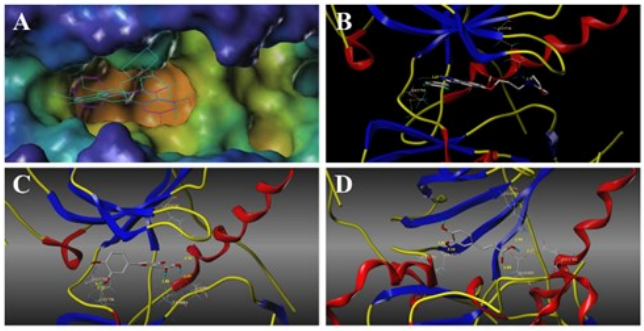

Fig. S5 (A) The active pocket of EGFR. The docking results of (B) gefitinib, (C) luteolin, and (D) caffeic acid with EGFR.