Supporting Information

Hollow Microcapsules with Ulcerative Colitis Therapeutic Effects made of Multifunctional Turkish galls extraction

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Supplementary information

Table S1 | DAI score

Weight loss (%)	fecal consistency	fecal occult blood	score
normal	normal	negative	0
0-5	forming fecal	positive	1
5-10	semi-formed fecal	positive	2
10-15	loose fecal	bleeding	3
＞15	watery diarrhea	bleeding	4

Note: normal fecal; forming fecal; loose fecal: does not stick to the anal paste, semi-formed fecal; loose fecal: can be attached to the anus of the watery stools.

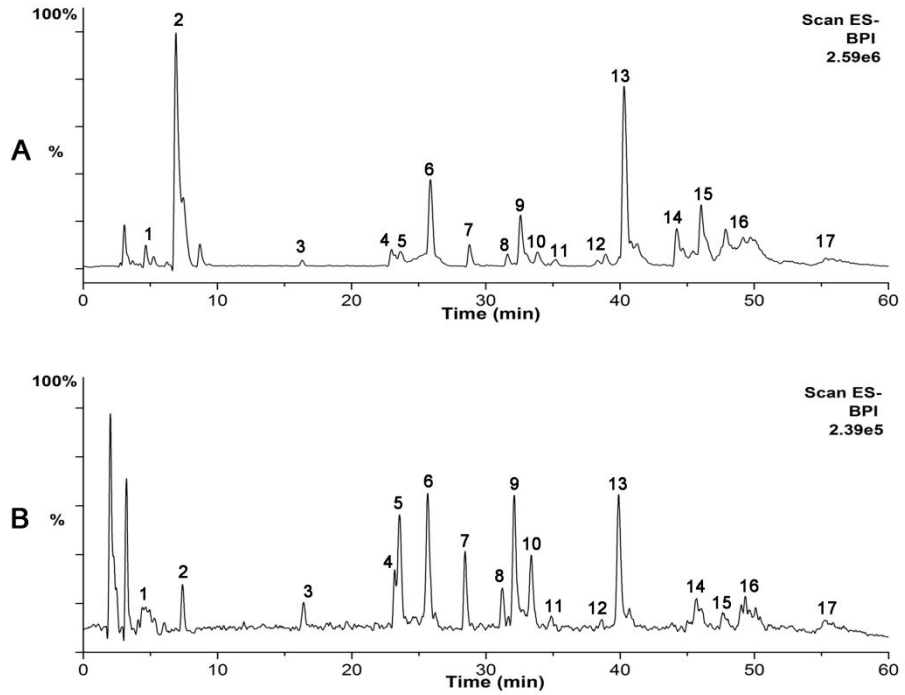

Figure S1 | Identification of chemical constituents (A) Total ion chromatogram of TGTs in negative ion mode. (B) Total ion chromatogram of TGTs-Fe^{III} microcapsules after disassembly in concentrated HCl. The detailed information was shown in Table S2.

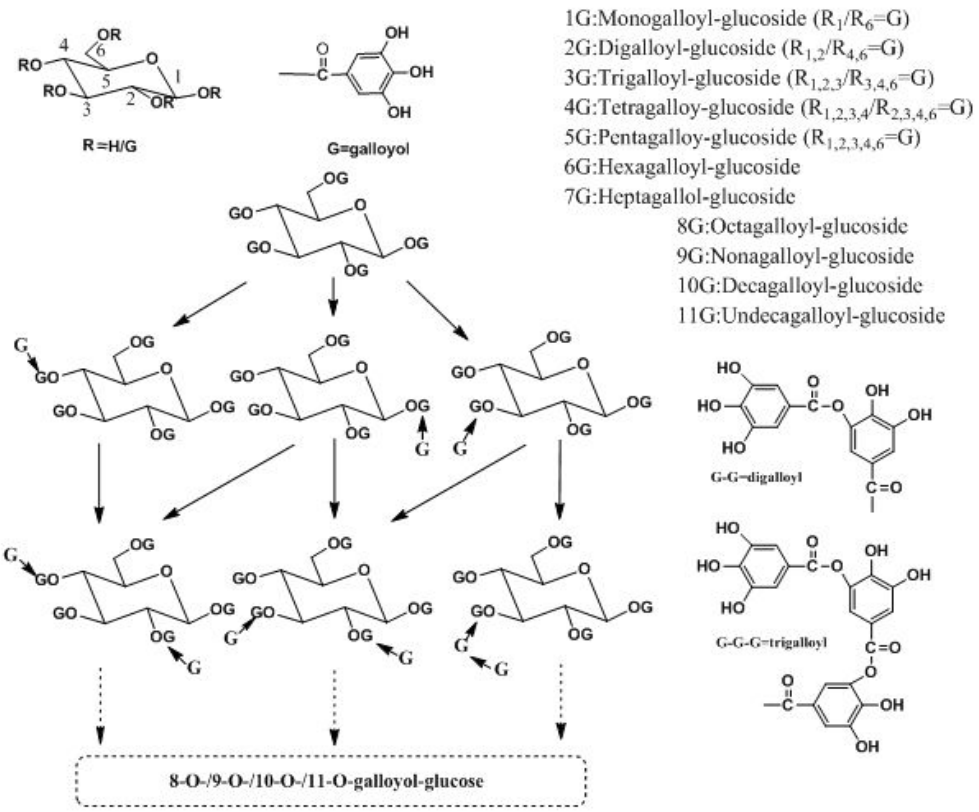

Figure S2 | Chemical formula of gallic tannins in the Turkish galls.

Table S2 | Chemical composition, RT and charge-mass ratio of TGTs

Number	molecular formula	Identification	RT (min)	$[M-H]^-$ m/z
1	$C_{13}H_{16}O_{10}$	mono-*O*-galloyl-β-D-glucose	4.06, 6.06	330.90
2	$C_7H_6O_5$	gallic acid	7.42	169.12
3, 4, 5	$C_{20}H_{19}O_{14}$	di-*O*-galloyl-β-D-glucose	16.33, 23.55	483.21
6	$C_{14}H_{10}O_9$	digallic acid	25.71	321.24
7, 8, 9, 10, 11	$C_{27}H_{23}O_{18}$	tri-*O*-galloyl-β-D-glucose	28.41, 31.26 32.13, 33.32,34.92	635.24
12, 13	$C_{34}H_{27}O_{22}$	tetra-*O*-galloyl-β-D-glucose	38.96, 39.89 40.70	787.14
14, 15	$C_{41}H_{31}O_{26}$	penta-*O*-galloyl-β-D-glucose	45.20, 45.71	939.17
16	$C_{48}H_{35}O_{30}$	hexa-*O*-galloyl-β-D-glucose	47.87, 49.64	1091.32

17	$C_{55}H_{39}O_{34}$	hepta-*O*-galloyl-β-D-glucose	56.03	1243.10

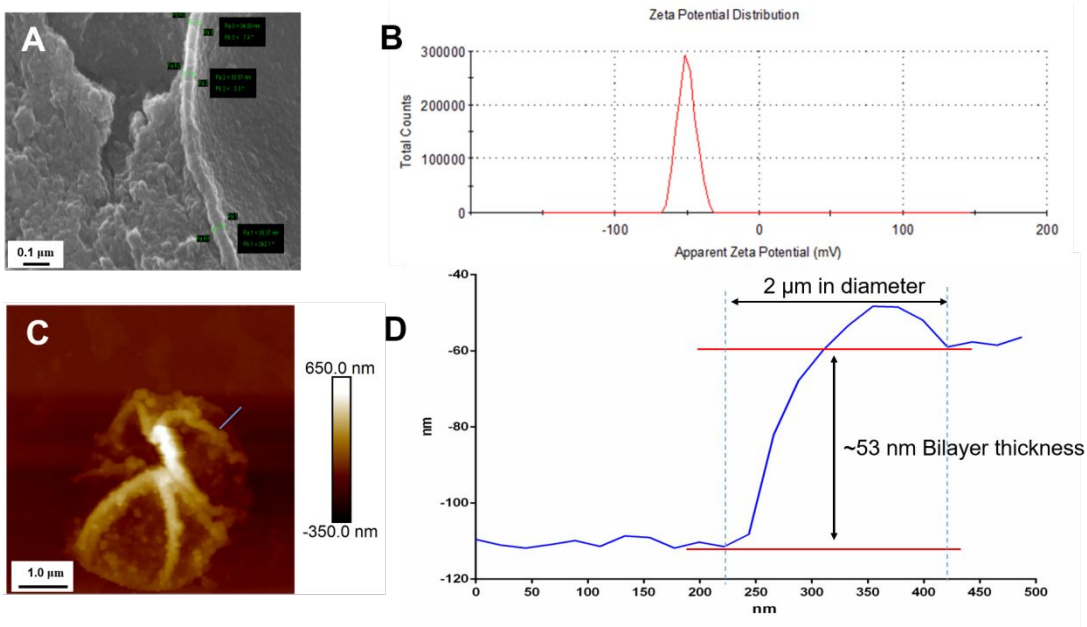

Figure S3 | (A) SEM characterized wall thickness of microcapsules. (B) Zeta potentials of TGTs-Fe^{III} microcapsules. (C and D) AFM micrograph showed **the collapsed bilayer thickness of the of TGTs-Fe^{III} microcapsules (capsule shell thickness can be caculated as half of the bilayer thickness).**

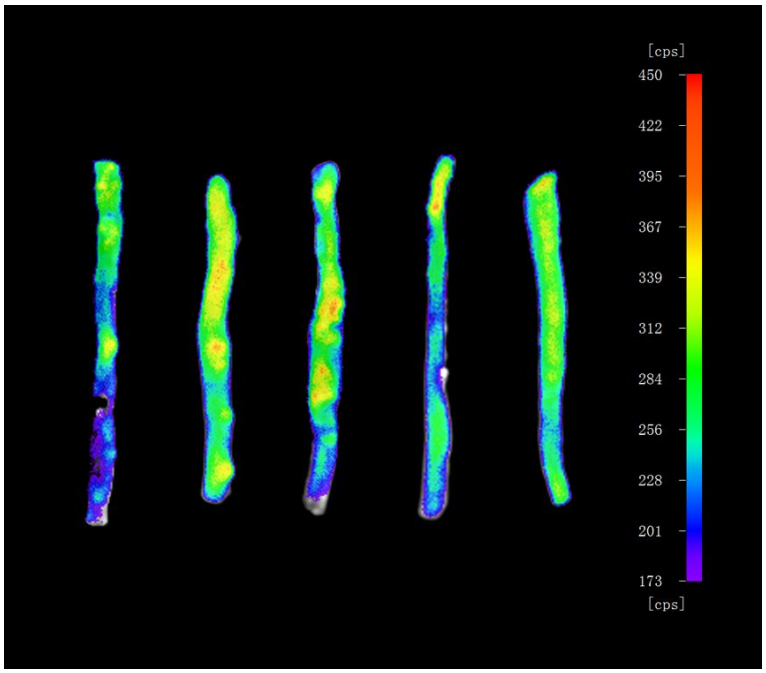

Figure S4 | The background fluorescence was obtained from colonic tissue of mice with UC without enema treatment. After enema treatment, the fluorescence signal was significantly enhanced, which was stronger than background fluorescence.