

MIL-101(Fe) @TiO₂ nanotube composite material is used for
the solid phase extraction of non-steroidal anti-inflammatory
drugs under the synergy of multiple interactions

Hongmei Liu^{1*}, Shihao Dang¹, Mingdeng Li¹, Baogui Ye¹

¹School of Chemistry and Chemical Engineering, Lanzhou Jiaotong University, Lanzhou 730000,
China;

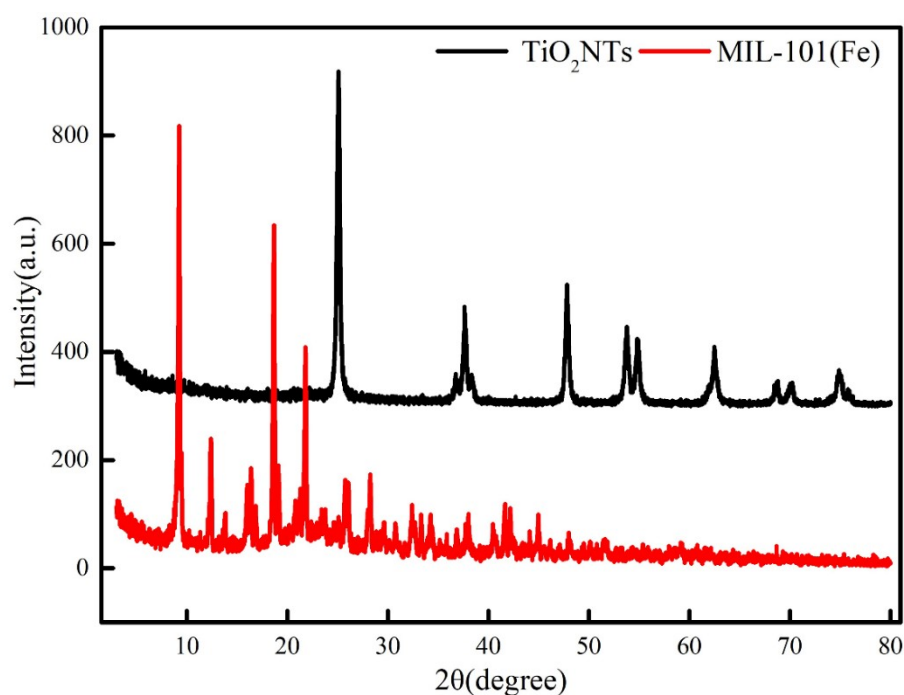


Fig S1. (a) XRD images of MIL-101(Fe) and TiO₂ NTs.

* Corresponding author.

E-mail address: liuhongm@mail.lzjtu.cn

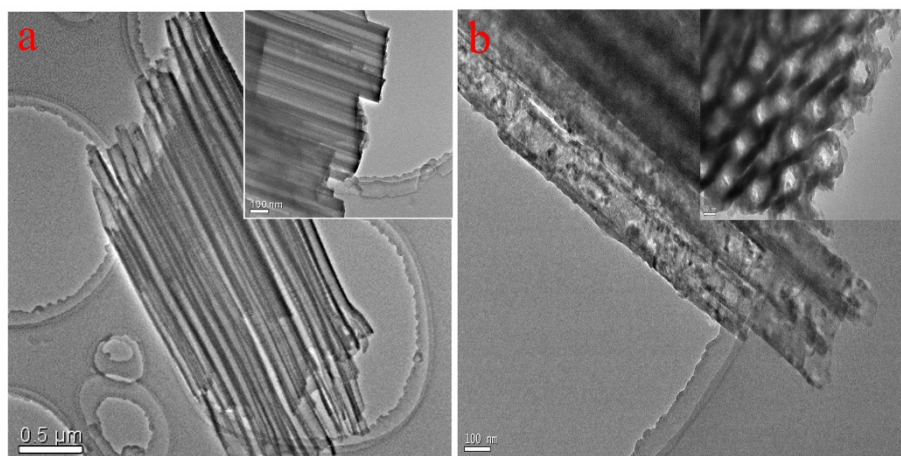


Fig S2.TEM images of TiO_2 NTs and MIL-101(Fe) @ TiO_2 NTs.

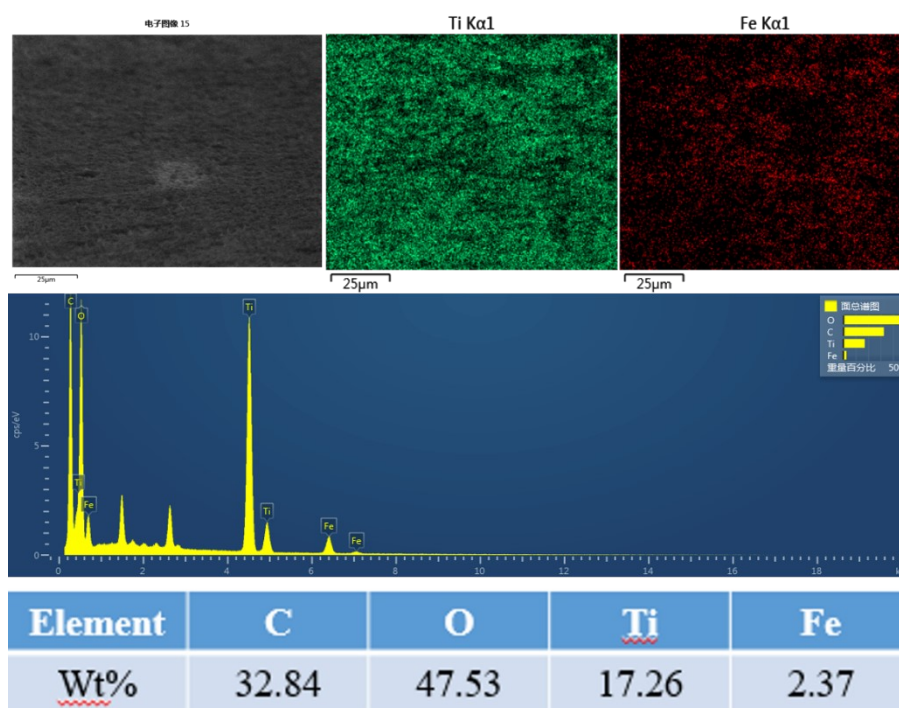


Fig S3.EDS images of MIL-101(Fe) @ TiO_2 NTs.

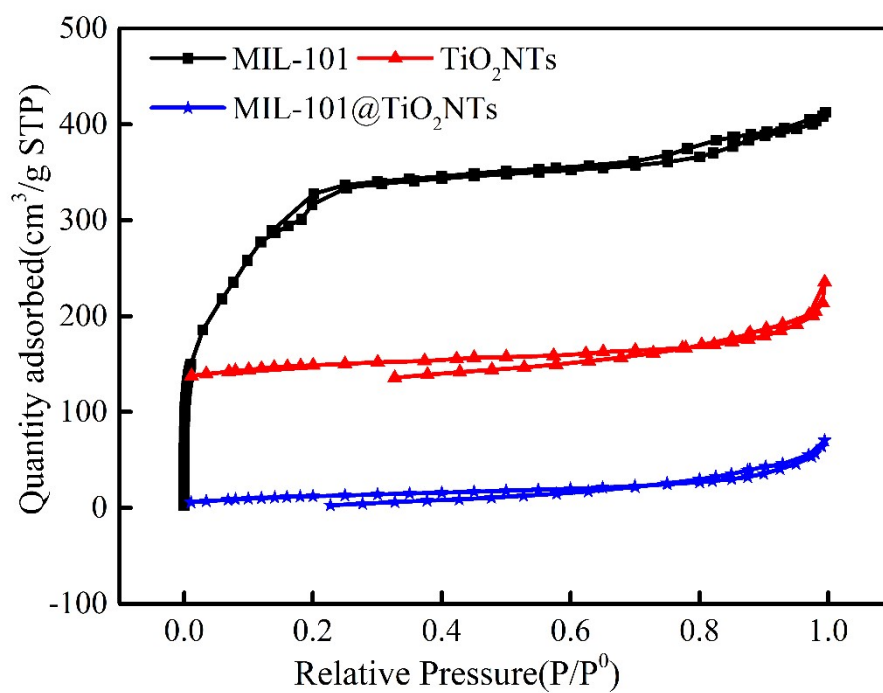


Fig S4 BET images of (black) MIL-101(Fe), (red) TiO₂ NTs
and (blue) MIL-101(Fe) @TiO₂ NTs.

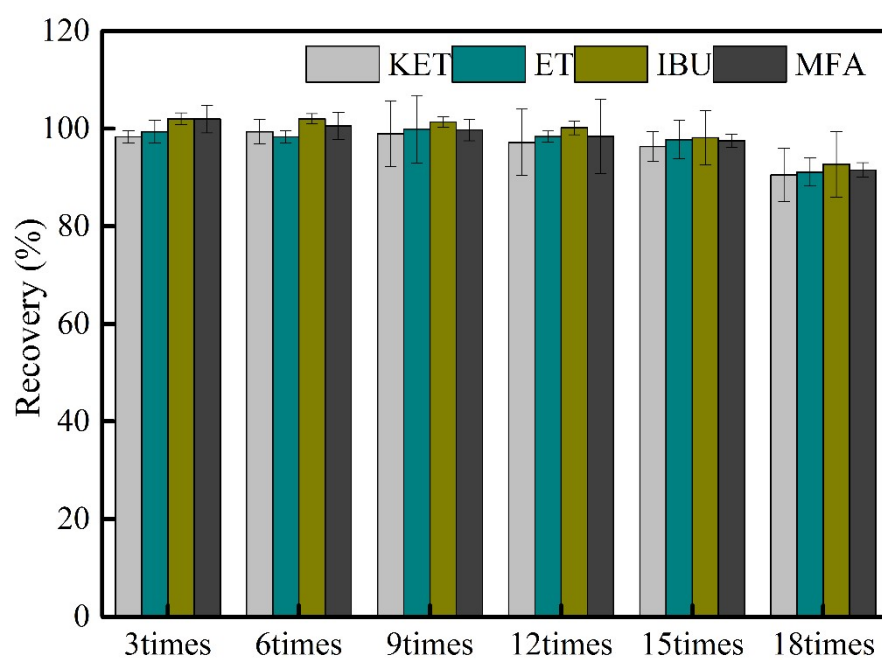


Fig S5. Research on MIL-101(Fe) @ TiO₂ NTs reuse

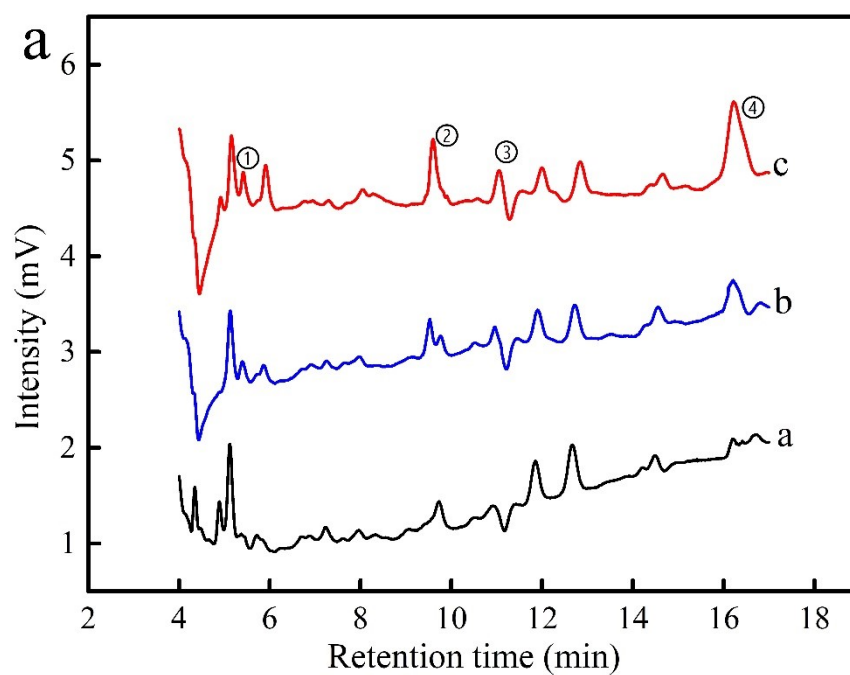


Fig S6 (a). HPLC chart (a) Upper Yellow River (b) Upper Yellow River mixed with $1\mu\text{g L}^{-1}$ target analytes (c) Upper Yellow River mixed with $5\mu\text{g L}^{-1}$ target analytes (①KET, ②ET, ③IBU, ④MFA).

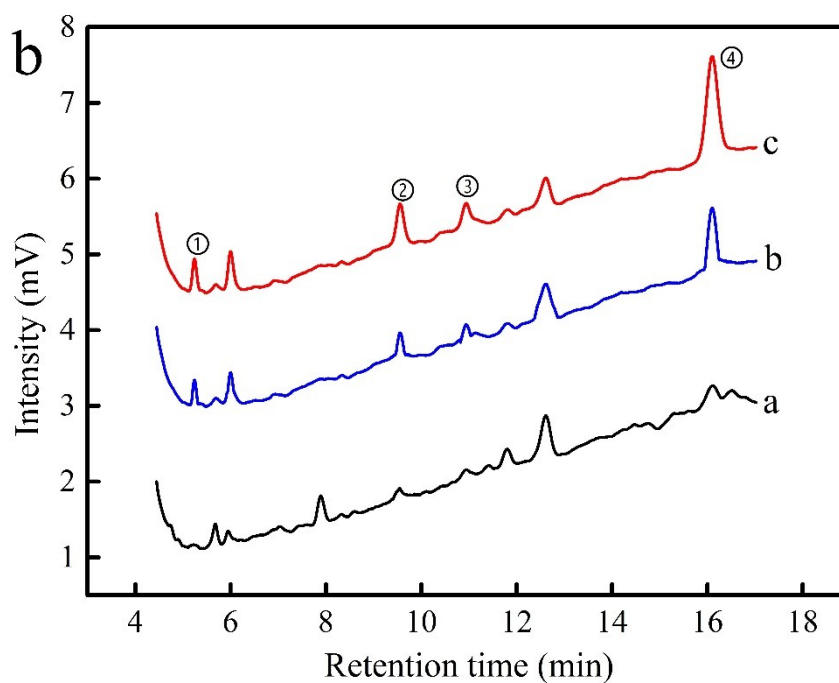


Fig S6 (b). HPLC chart (a) Lower Yellow River (b) Lower Yellow River mixed with $1\mu\text{g L}^{-1}$ target analytes (c) Lower Yellow River mixed with $5\mu\text{g L}^{-1}$ target

analytes (①KET, ②ET, ③IBU, ④MFA).

Table.S1 The extraction performance of MIL-101(Fe) @TiO₂ NT and SiO₂-C18 materials.

Analyte	MIL-101(Fe) @TiO ₂ NTs		SiO ₂ -C18	
	ER (%)	Extraction capacity(μg/g)	ER (%)	Extraction capacity(μg/g)
KET	97.73	48.87	79.97	39.99
ET	105.11	52.56	93.49	46.75
IBU	99.21	49.61	51.62	25.81
MFA	101.84	50.92	74.38	37.19

The **Extraction capacity (EC)** of the prepared adsorbent to NSAIDs is measured and calculated, and the formula is $EC = M_f / M_s$. In this formula, M_s is the quality of the sorbent, and M_f is the amount of the extracted target substance.