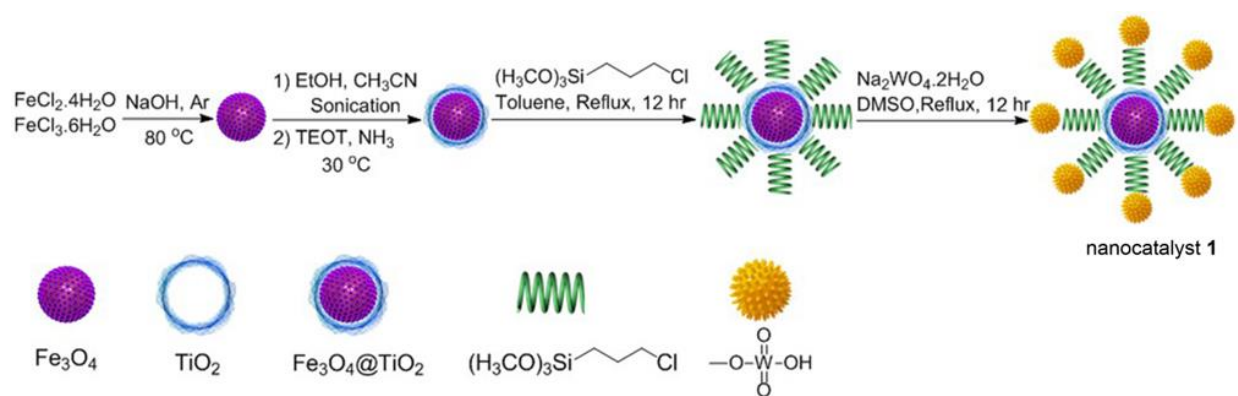
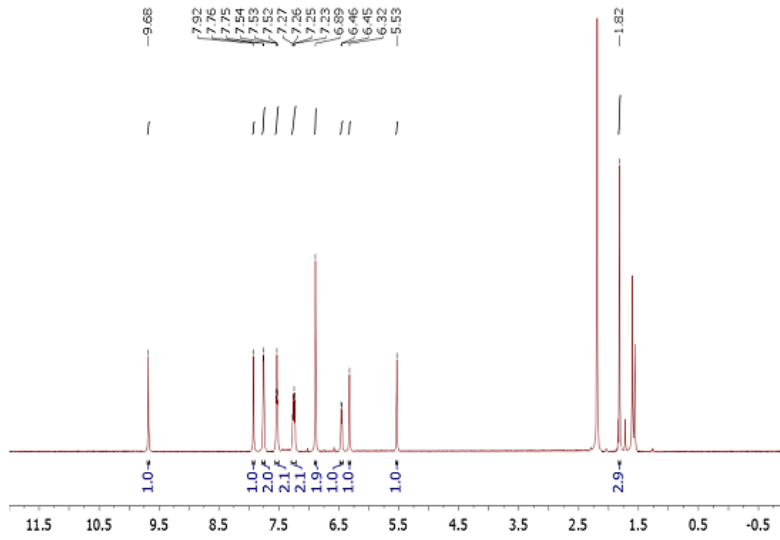
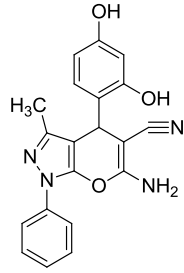


Supporting Information

Tungstic acid-functionalized $\text{Fe}_3\text{O}_4@ \text{TiO}_2$: Preparation, characterization and its application for the synthesis of pyrano[2,3-*c*]pyrazole derivatives as a reusable magnetic nanocatalyst

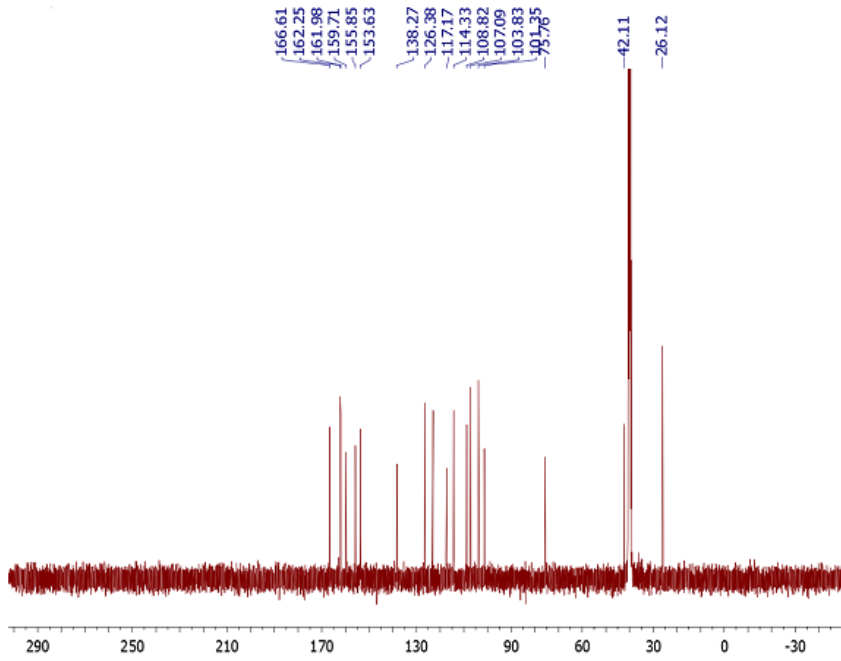
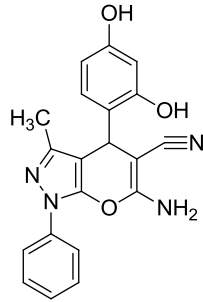
Jamileh Etemad Gholtash and Mahnaz Farahi*





NAME Yasooj UN
 EXPNO 1154
 PROCNO 1
 Date_ 20180524
 Time 18.30
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT DMSO
 NS 20
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894966 sec
 RG 181
 DW 62.400 usec
 DE 6.50 usec
 TE 293.9 K
 D1 4.0000000 sec
 TDO 1

===== CHANNEL f1 =====
 NUC1 1H
 P1 14.00 usec
 PL1 -2.00 dB
 PL1W 11.86359406 W
 SFO1 400.2236020 MHz
 SI 32768
 SF 400.2200000 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00



166.61
162.25
161.98
159.71
155.85
153.63
138.27
126.38
117.17
114.33
108.82
107.09
103.83
101.85
42.11
26.12



```

NAME      Ym005.U11
EXPNO     1
PROCNO    1
Date_    20180224
Time      18.41
INSTRUM   spect
PROBHD    5 mm PABBO BB-
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS         8192
DS         0
SWH       35714.380 Hz
FREQS     6.54657 Hz
AQ         0.9179540 sec
RG         3250
DW         14.000 usec
DE         6.50 usec
TE         293.8 K
D1         1.0000000 sec
D11        0.0300000 sec
TD0        1

```

```

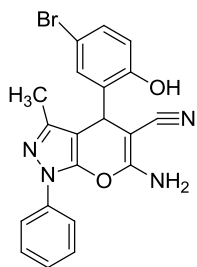
***** CHANNEL f1 *****
NUC1      13C
P1         9.00 usec
PL1        -0.90 dB
PL1W      42.03803895 W
SFO1      100.627704 MHz

```

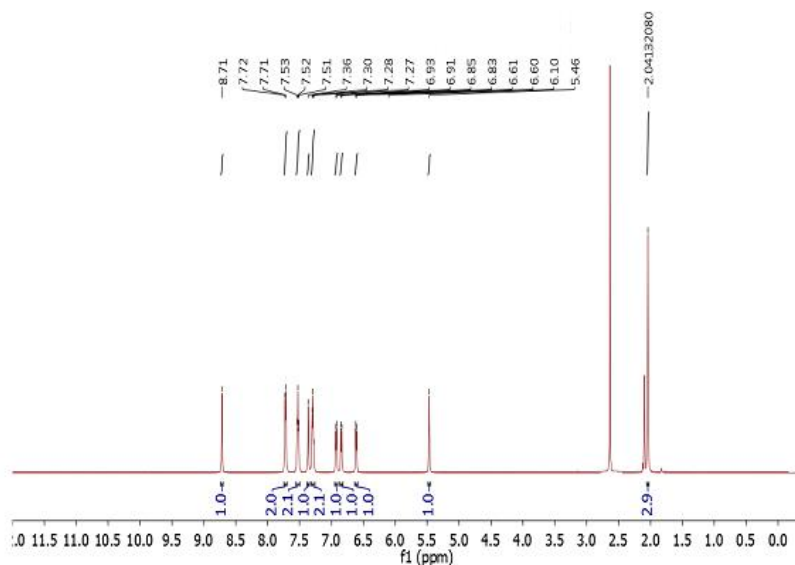
```

***** CHANNEL f2 *****
CPDPRG2   waltz16
NUC2       1H
PCPD2     90.00 usec
P12        -2.00 dB
PL12       14.16 dB
PL13       17.00 dB
P12W      11.86335806 W
PL12W     0.3872204 W
PL13W     0.17139934 W
SFO2      400.1274000 MHz
SI         32768
SF         100.6253990 MHz
WDW        EM
SSB         0
LB         1.00 Hz
GB          0
PC         1.40

```

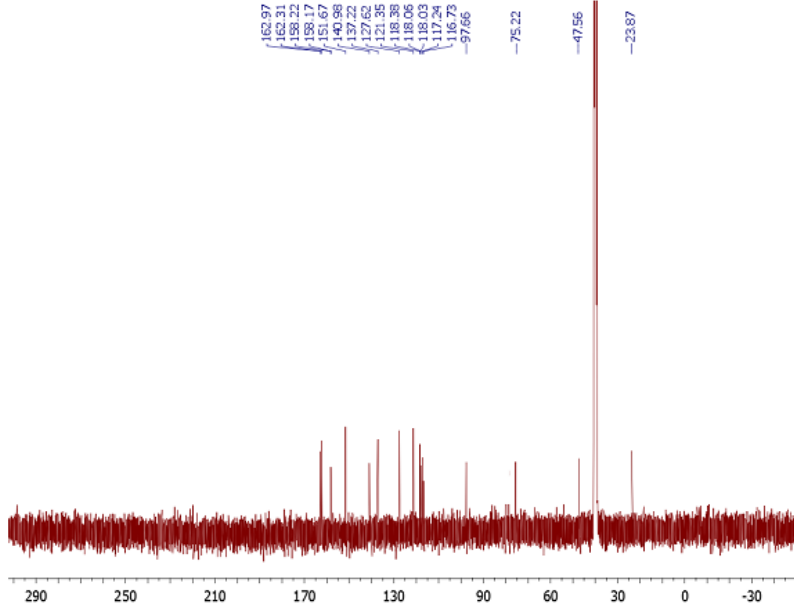
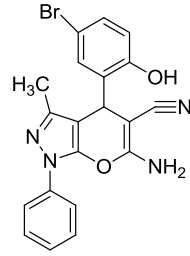


Yasooj UN.1154.1.1r
Sample code: 2 (Yarinejade)



NAME Yasooj UN
EXPNO 1154
PROCNO 1
Date_ 20180524
Time 18.30
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 20
DS 0
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894966 sec
RG 181
DW 62.400 usec
DE 6.50 usec
TE 293.9 K
D1 4.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 14.00 usec
PL1 -2.00 dB
PL1W 11.86359406 W
SFO1 400.2236020 MHz
SI 32768
SF 400.2200000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



```

NAME       Yangq LU
EXPNO      1123
PROCNO     1
Date_      20180524
Time       16:41
INSTRUM    spect
PROBHD     5 mm PABBO BB-
PULPROG    zgpg30
TD          65536
SOLVENT    DMSO
NS          8192
DS          0
SFO1       3271.4285 Hz
FREQS1     0.544957 Hz
AQ          0.0179560 sec
RG          3250
DW          14.200 usec
DE          6.50 usec
TE          303.2 K
D1          1.00000000 sec
D11        0.00000000 sec
TD0         1

```

```

***** CHANNEL f1 *****
NUC1       13C
P1         0.00 usec
PL1        -0.00 dB
PL1W       47.02801895 W
SFO1       100.6470784 MHz

***** CHANNEL f2 *****
CPDPRG2    waltz16
NUC2       1H
PCPD2     90.00 usec
PL2        -2.00 dB
PL12       14.16 dB
PL13       17.90 dB
PL1W       11.86219496 W
PL12W      0.38722104 W
PL13W      0.12139938 W
SFO2       400.2218000 MHz
SI          32768
SF         100.6283800 MHz
WDW         EM
SSB         0
LB          3.00 Hz
GB          0
PC          1.40

```