Electronic Supplementary Material (ESI) for CrystEngComm.

Supplementary data for

Cocrystals of regorafenib with dicarboxylic acids: synthesis, characterization and property evaluation

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Table S1. Summary of the results of cocrystal screening of REG with different CCFs.

API	CCFs	Experimental result
Regorafenib	Malic acid	Cocrystal
Regorafenib	Succinic acid	Physical mixture
Regorafenib	Glutaric acid	Cocrystal
Regorafenib	Adipic acid	Physical mixture
Regorafenib	Pimelic acid	Cocrystal
Regorafenib	Oxalic acid	Physical mixture
Regorafenib	D(-)-Tartaric acid	Physical mixture
Regorafenib	L-Aspartic acid	Physical mixture
Regorafenib	Folic acid	Physical mixture
Regorafenib	L-Glutamic acid	Physical mixture
Regorafenib	Fumaric acid	Physical mixture

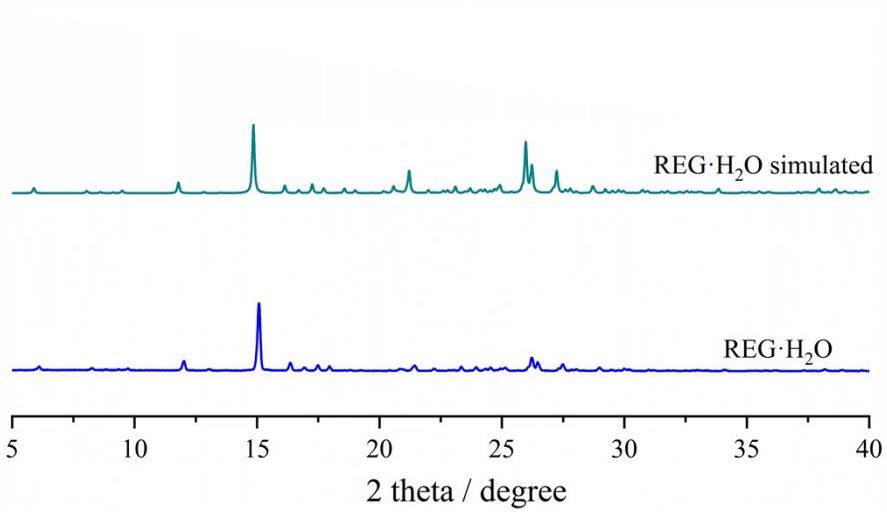
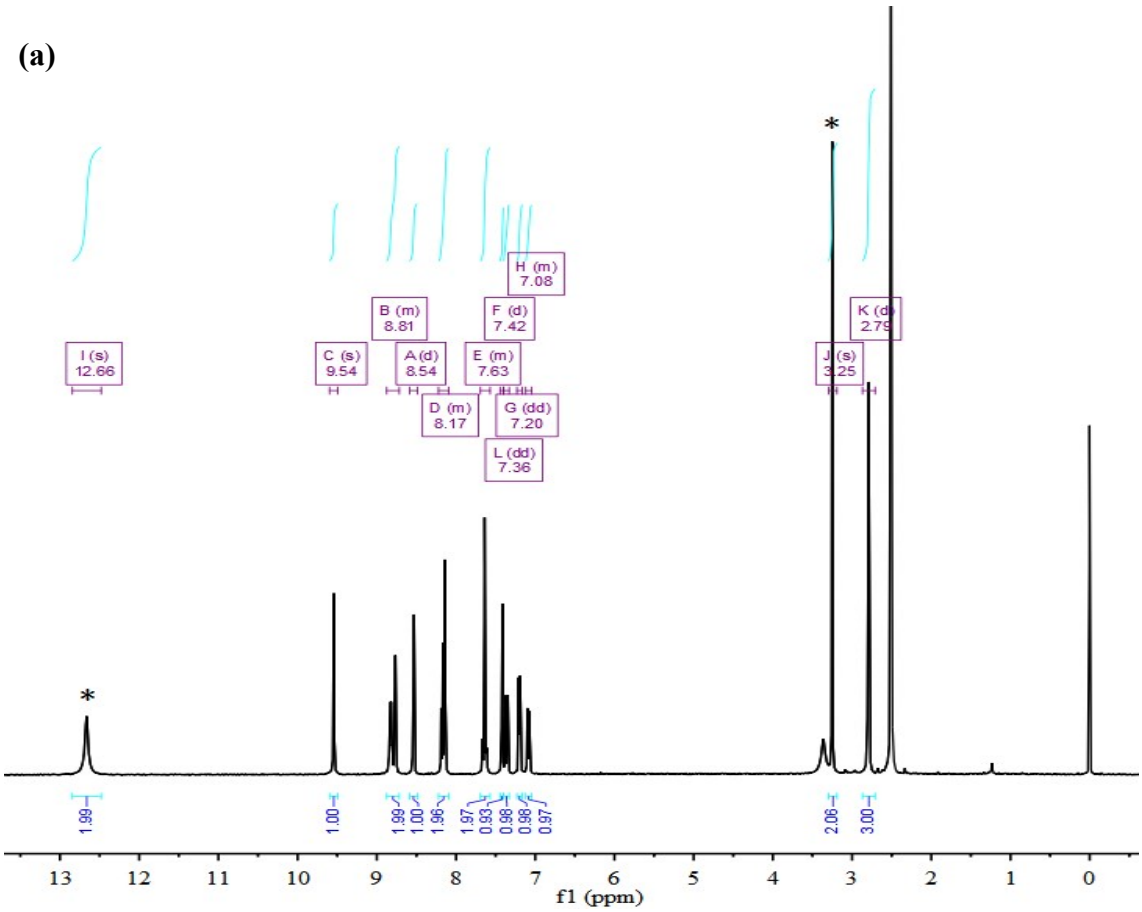
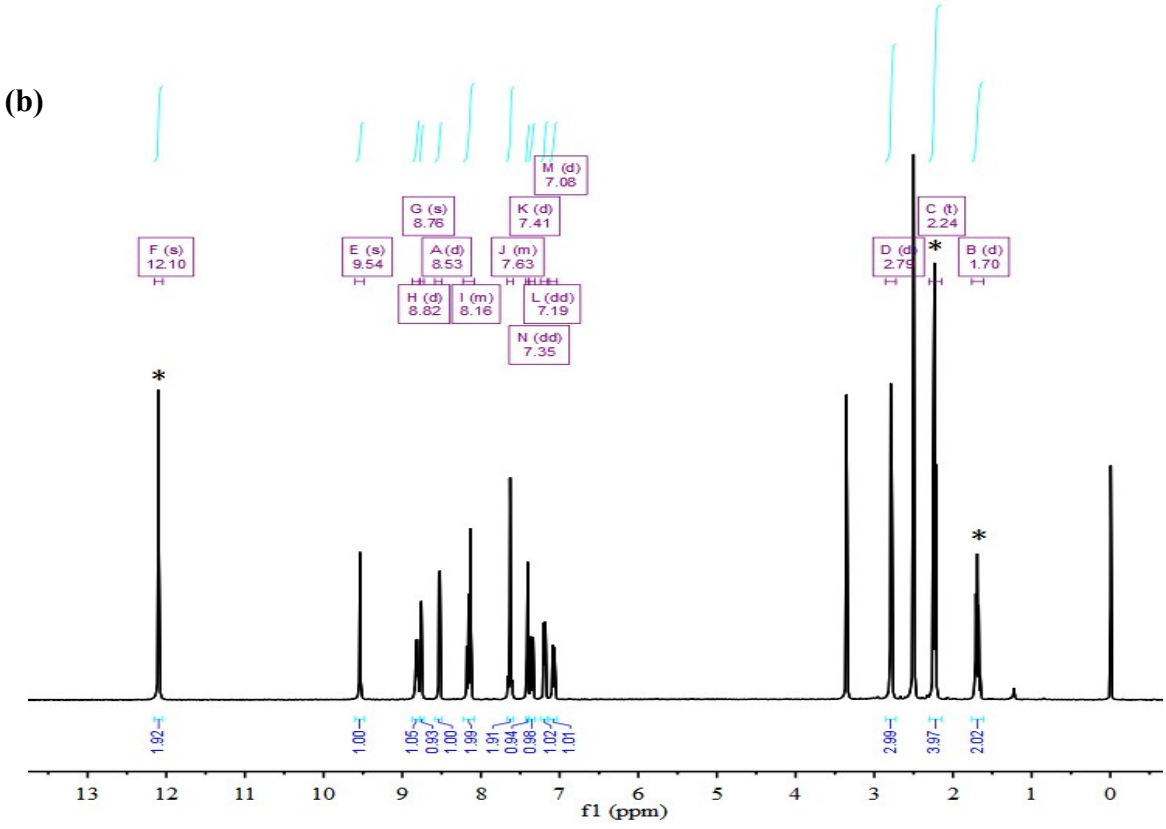


Fig. S1 PXRD patterns of synthesized REG·H_2O and simulated from the single crystal data.

(a)


I (s) 12.66
C (s) 9.54
B (m) 8.81
A (d) 8.54
D (m) 8.17
F (d) 7.42
E (m) 7.63
G (dd) 7.20
L (dd) 7.36
H (m) 7.08
J (s) 3.25
K (d) 2.79
1.99
1.00
1.99
1.00
1.96
1.97
0.93
0.98
0.98
0.97
2.06
3.00
13 12 11 10 9 8 7 6 5 4 3 2 1 0
f1 (ppm)

(b)


F (s) 12.10
E (s) 9.54
G (s) 8.76
A (d) 8.53
H (d) 8.82
I (m) 8.16
J (m) 7.63
K (d) 7.41
L (dd) 7.19
N (dd) 7.35
M (d) 7.08
D (d) 2.79
C (t) 2.24
B (d) 1.70
1.92
1.00
1.05
0.93
1.00
1.99
1.91
0.94
0.98
1.02
1.01
2.99
3.97
2.02
13 12 11 10 9 8 7 6 5 4 3 2 1 0
f1 (ppm)

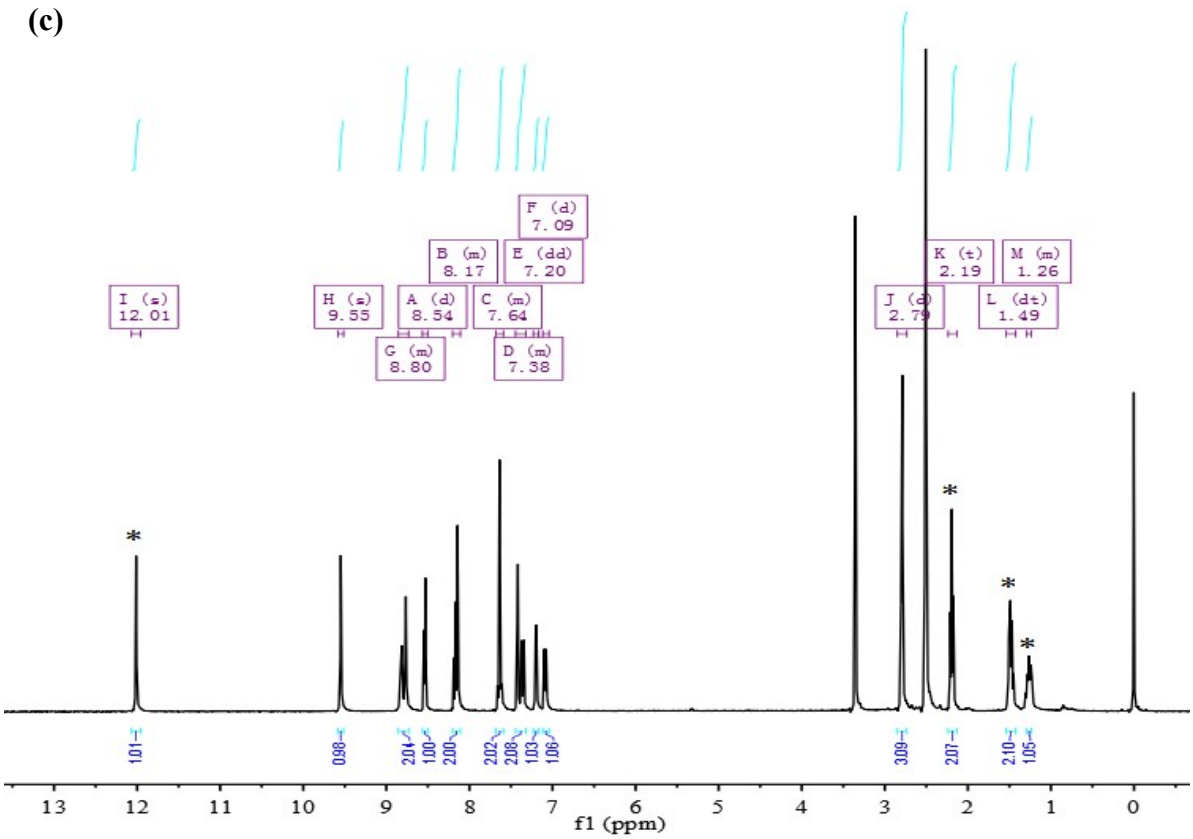


Fig. S2 ^{1}H NMR spectra with integrals for (a) **REG-MA**, (b) **REG-GA** and (c) **REG-PA** (The asterisks mark the characteristic peaks of CCFs).

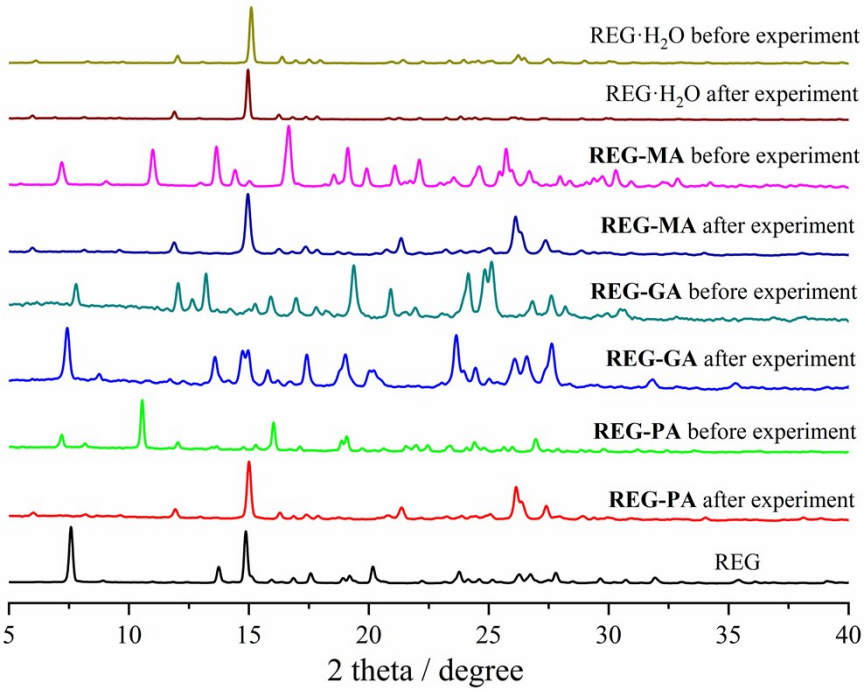
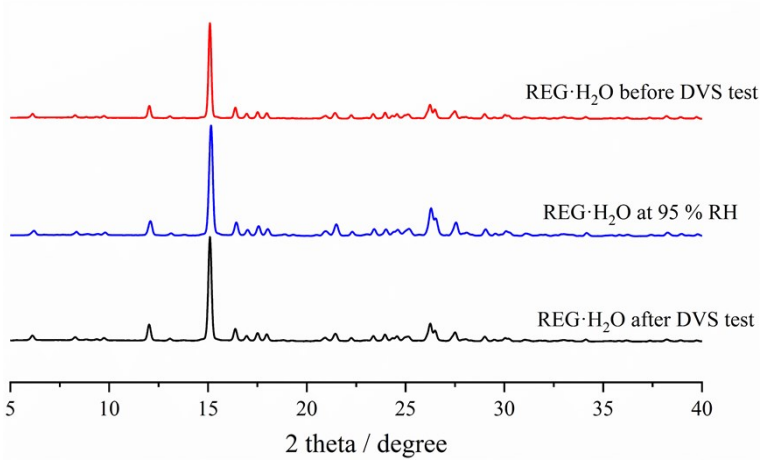
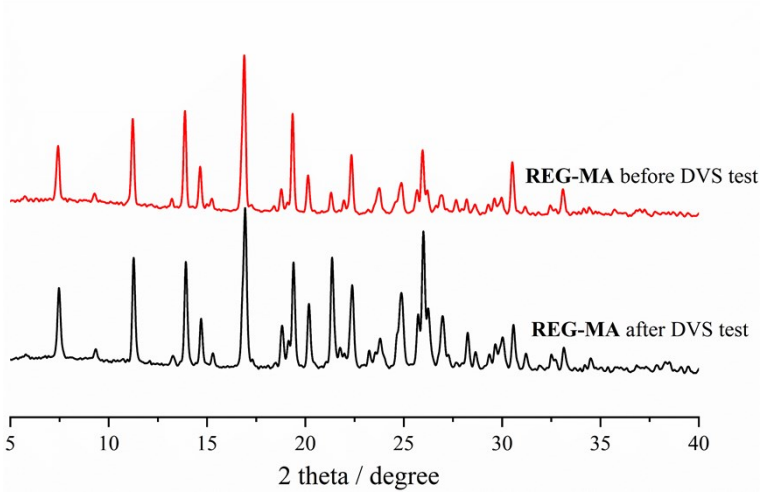


Fig. S3 PXRD patterns of residual powder for REG·H_2O, **REG-MA**, **REG-GA** and **REG-PA** after powder dissolution in pH 4.5 acetate buffer with 0.1% SDS solution.

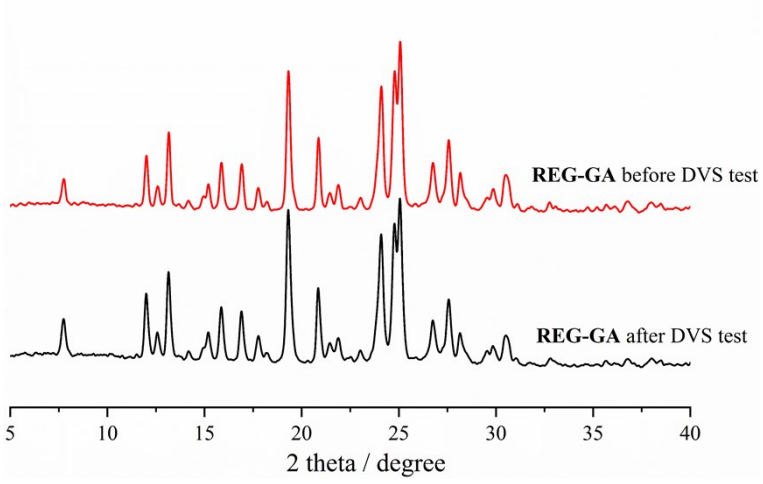
(a)


REG·H2O before DVS test
REG·H2O at 95 % RH
REG·H2O after DVS test
5
10
15
20
25
30
35
40
2 theta / degree

(b)


REG-MA before DVS test
REG-MA after DVS test
5
10
15
20
25
30
35
40
2 theta / degree

(c)


REG-GA before DVS test
REG-GA after DVS test
5
10
15
20
25
30
35
40
2 theta / degree

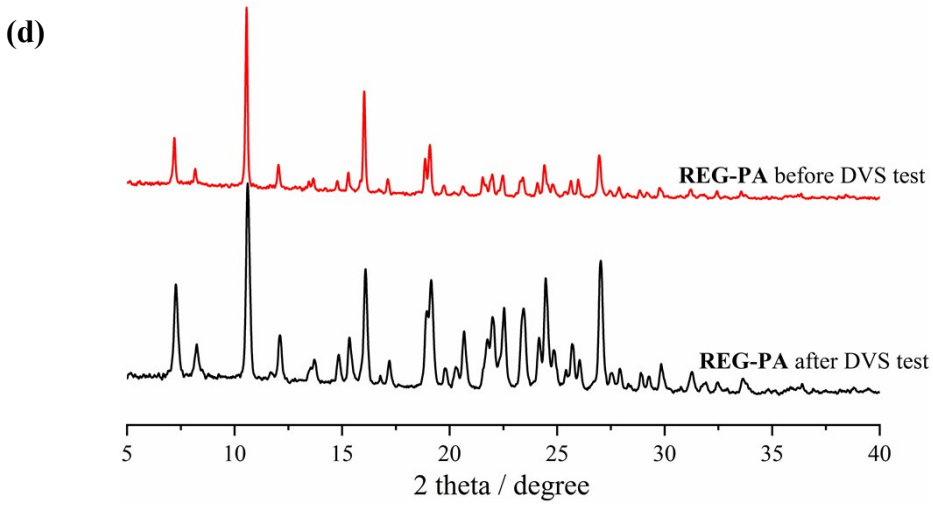
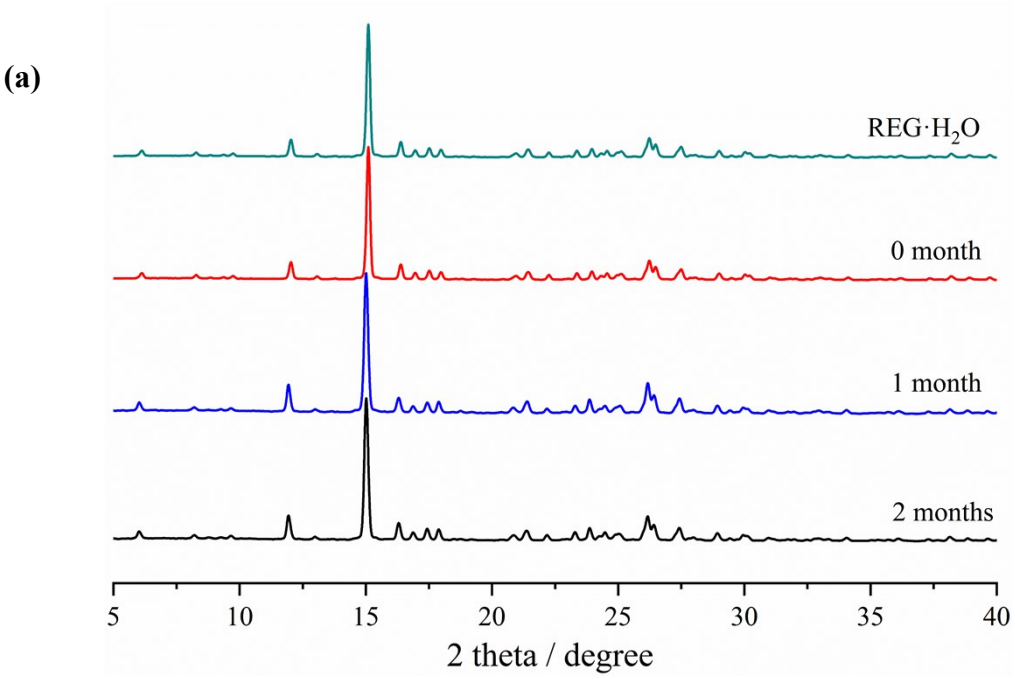
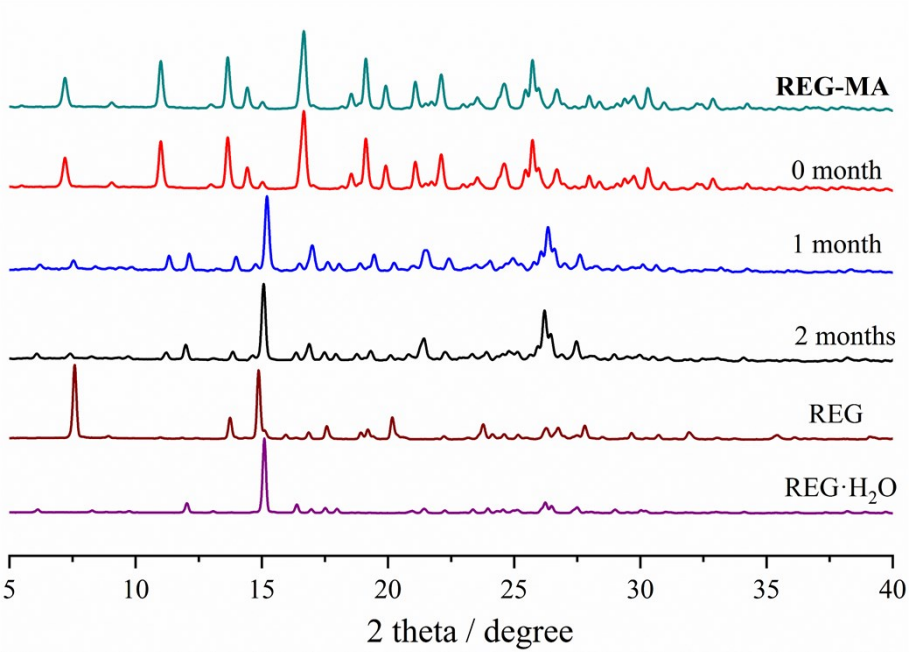


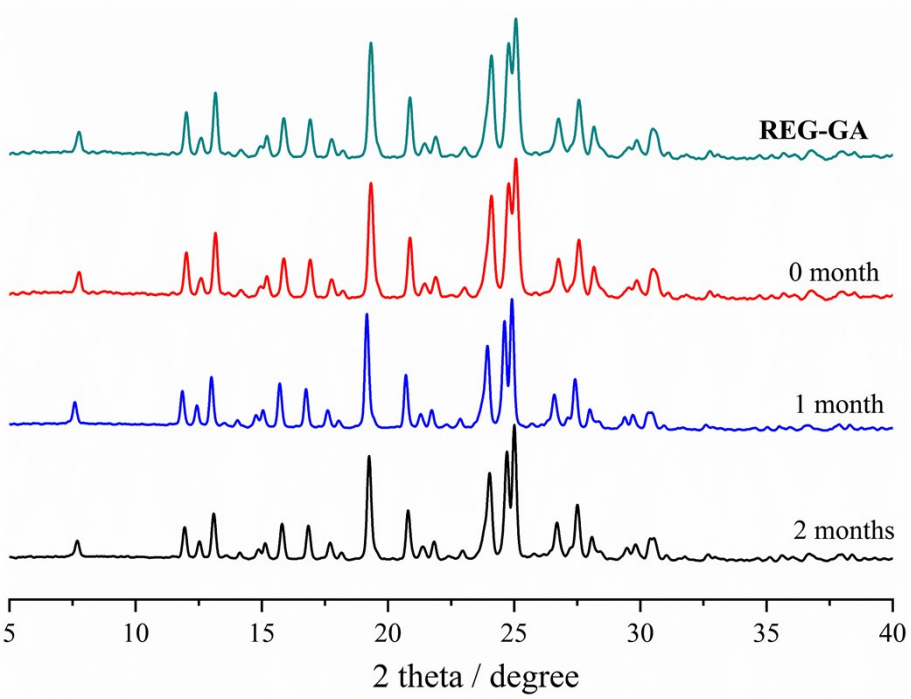
Fig. S4 PXRD patterns of (a) REG·H_2O, (b) **REG-MA**, (c) **REG-GA** and (d) **REG-PA** before and after DVS test.



(b)


REG-MA
0 month
1 month
2 months
REG
REG·H2O
5
10
15
20
25
30
35
40
2 theta / degree

(c)


REG-GA
0 month
1 month
2 months
5
10
15
20
25
30
35
40
2 theta / degree

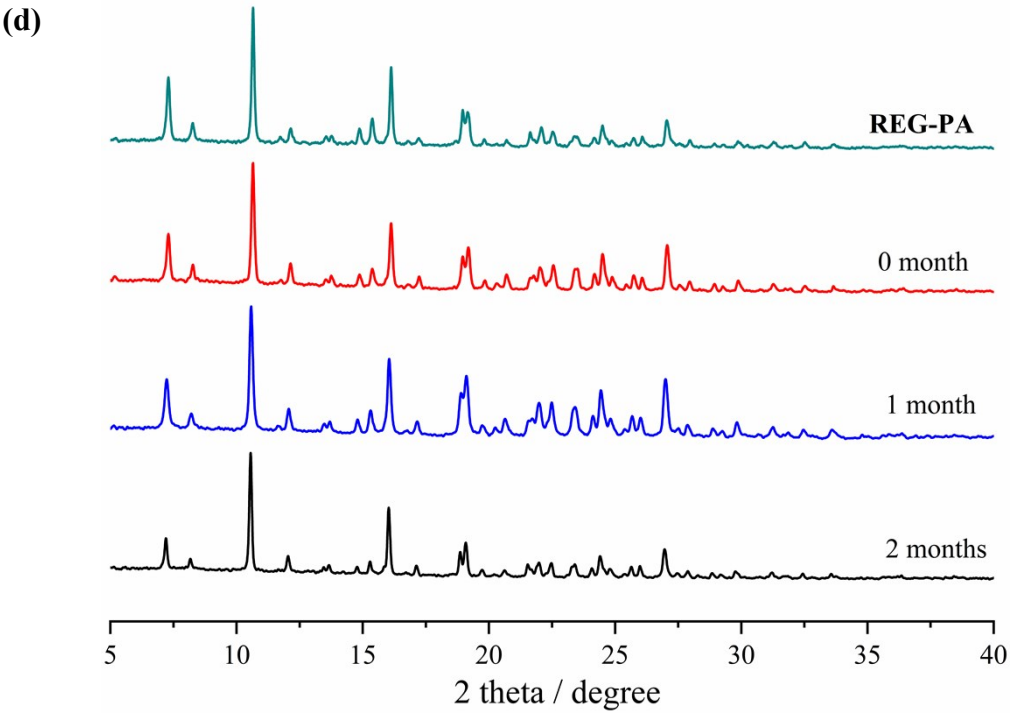


Fig. S5 PXRD patterns of (a) REG·H_2O, (b) **REG-MA**, (c) **REG-GA** and (d) **REG-PA** during storage under 40 °C /75% RH.

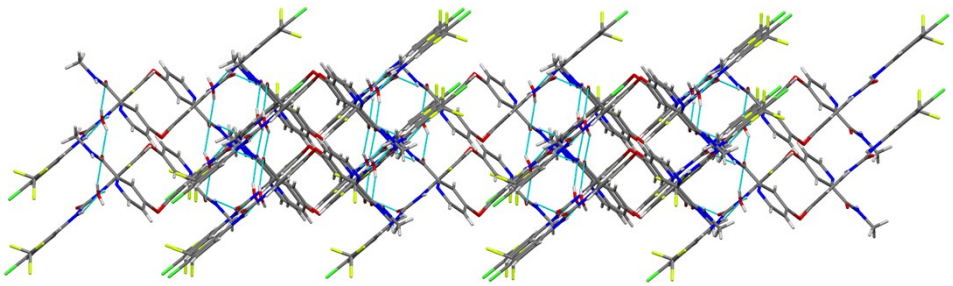


Fig. S6 Crystal structure of REG·H_2O.

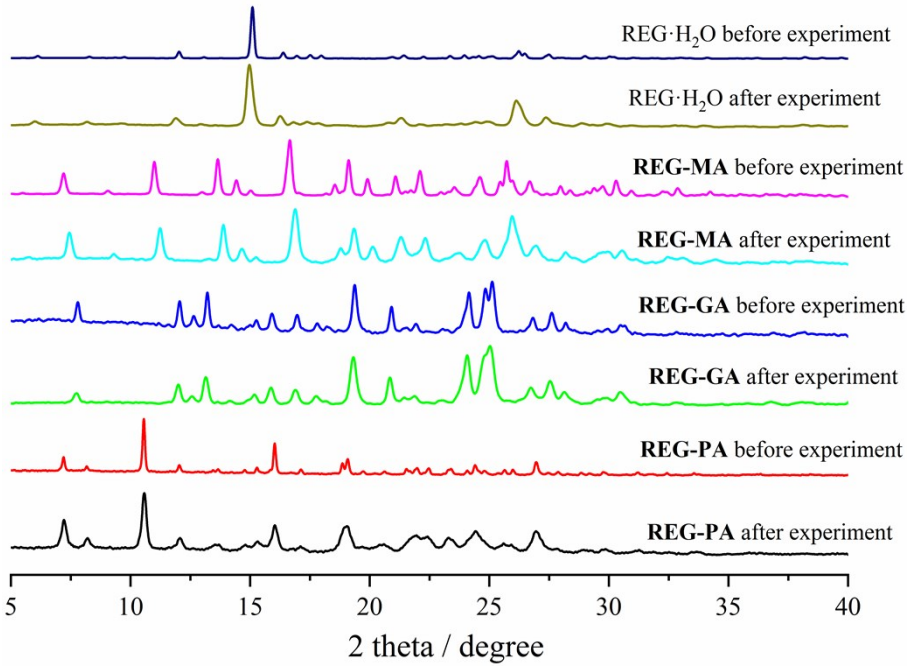


Fig. S7 PXRD patterns of REG·H_2O, **REG-MA**, **REG-GA** and **REG-PA** after compaction experiments at 300 MPa.