One-pot synthesis of fluorescent N,P-codoped carbon dots for vitamin B_{12} determination and bioimaging application

Fig.S1 FL emission spectra of the CDs that were synthesized under different the molar ratio of arginine and phosphoric acid (a), reaction temperature (b) and reaction time (c).

Fig.S2 (a) The emission spectra of CDs under different excitation wavelengths ranging from 300 to 380 nm. (b) Normalized emission spectra of different excitation wavelengths.

Fig.S3. Effect of (a) pH (b) ionic strength (NaCl), (c) time, and (d) Xe lamp irradiation at room temperature on the fluorescence intensity of N,P-CDs.

Fig.S4 The absorption spectra of CDs, VB_{12}, and their mixture

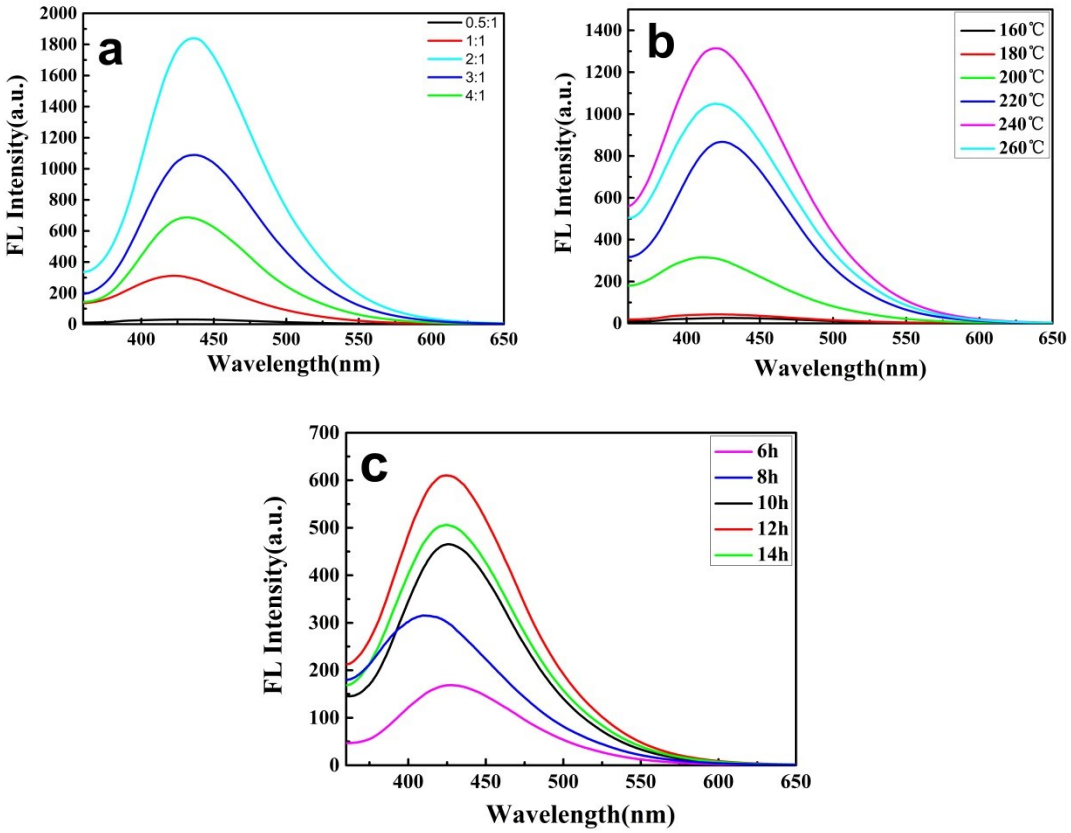
a
0.5:1
1:1
2:1
3:1
4:1
FL Intensity(a.u.)
Wavelength(nm)
b
160℃
180℃
200℃
220℃
240℃
260℃
FL Intensity(a.u.)
Wavelength(nm)
c
6h
8h
10h
12h
14h
FL Intensity(a.u.)
Wavelength(nm)

Fig. S1

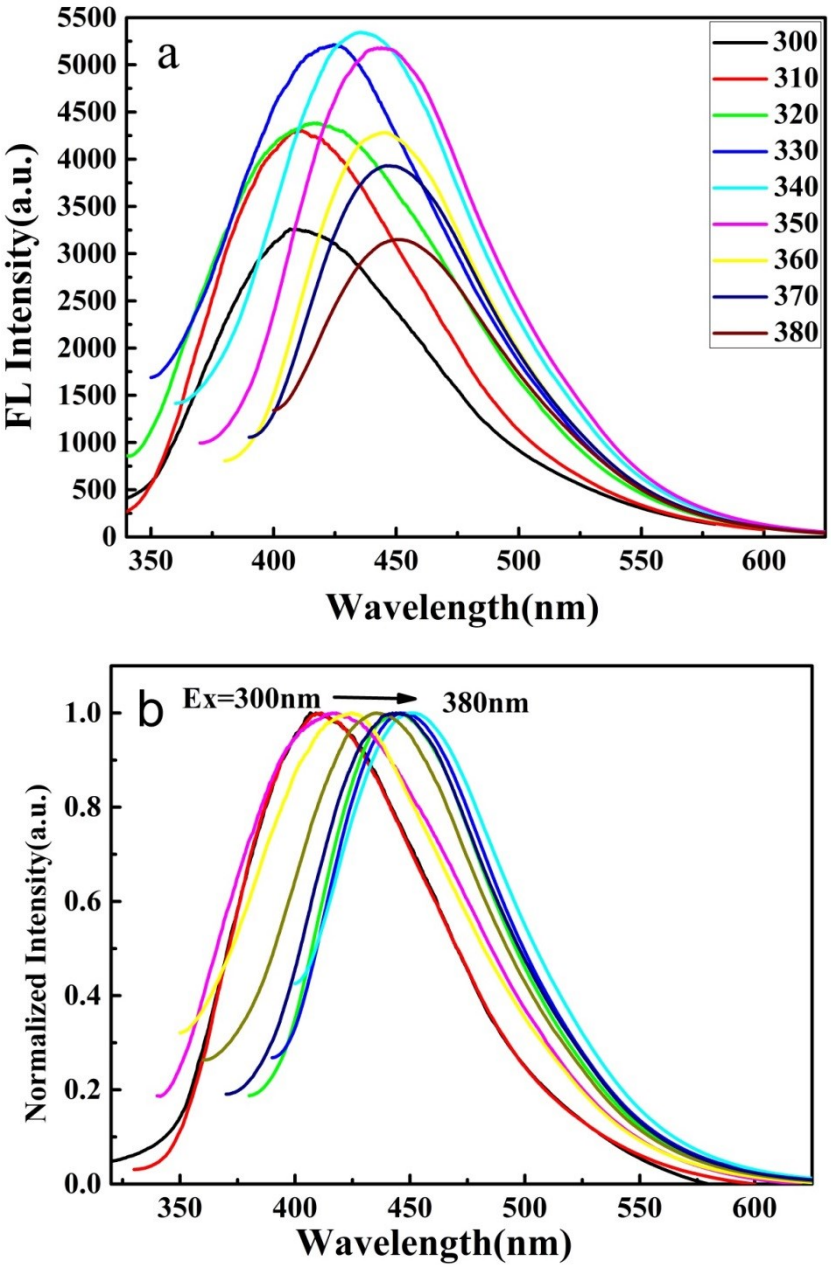
a
FL Intensity(a.u.)
Wavelength(nm)
300
310
320
330
340
350
360
370
380
b
Ex=300nm
380nm
Normalized Intensity(a.u.)
Wavelength(nm)

Fig.S2

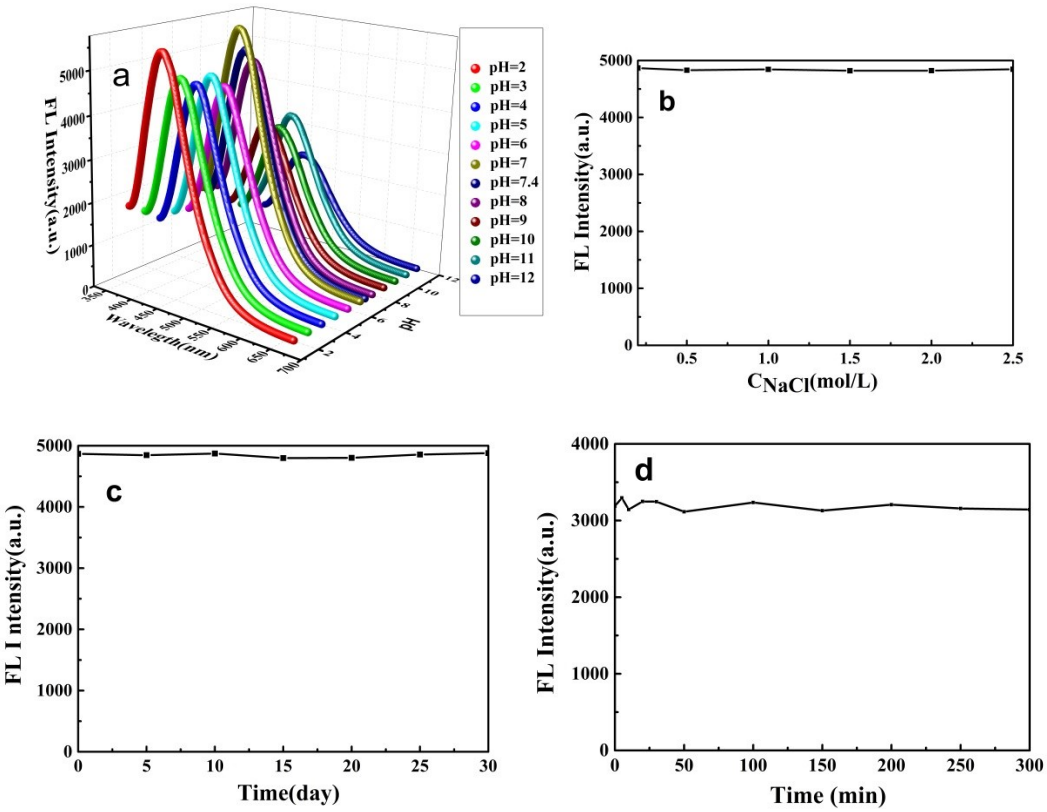
a
FL Intensity(a.u.)
Wavelength(nm)
pH
pH=2
pH=3
pH=4
pH=5
pH=6
pH=7
pH=7.4
pH=8
pH=9
pH=10
pH=11
pH=12
b
FL Intensity(a.u.)
C_NaCl(mol/L)
c
FL I ntensity(a.u.)
Time(day)
d
FL Intensity(a.u.)
Time (min)

Fig.S3

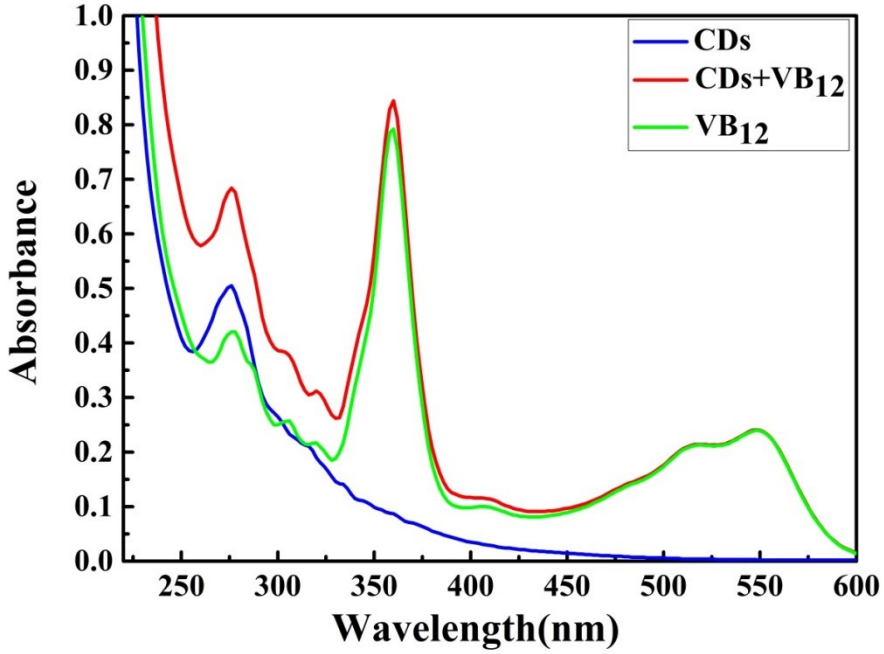
CDs
CDs+VB12
VB12
Absorbance
Wavelength(nm)
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
250
300
350
400
450
500
550
600

Fig.S4