

Study on the stabilization mechanisms of wet-milled cepharanthine nanosuspensions using systematical characterization

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Supplementary Figure:

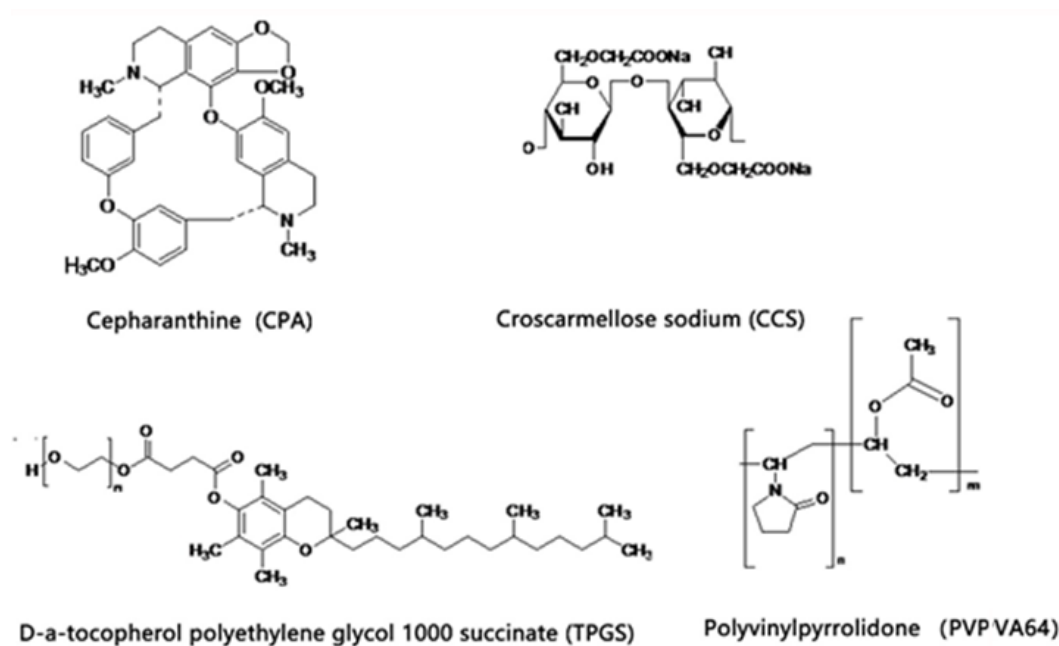


Figure S1 Chemical structures of Cepharanthine (A), CCS (B), TPGS (C) and PVP VA64 (D).

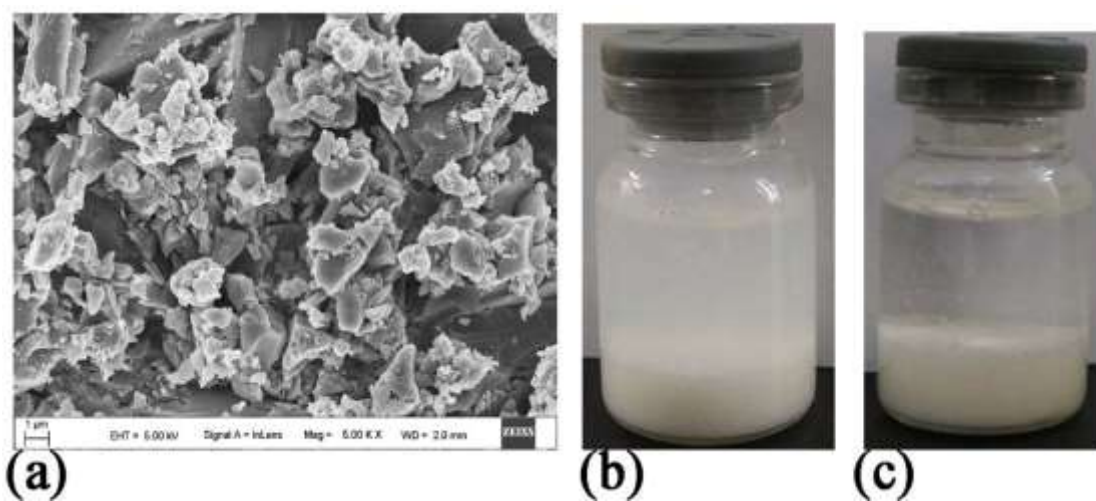


Figure S2. SEM image of raw CPA(a), representative images of milled suspension without stabilizer during storage within 1 min (b) and 15 min (c) at 4 °C.

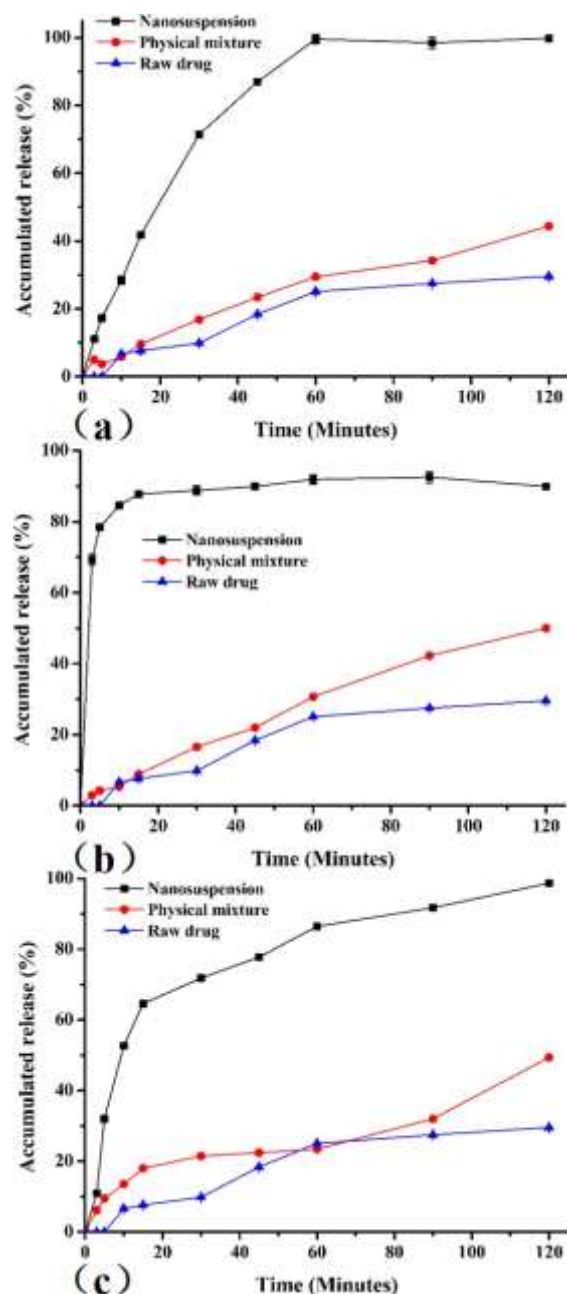
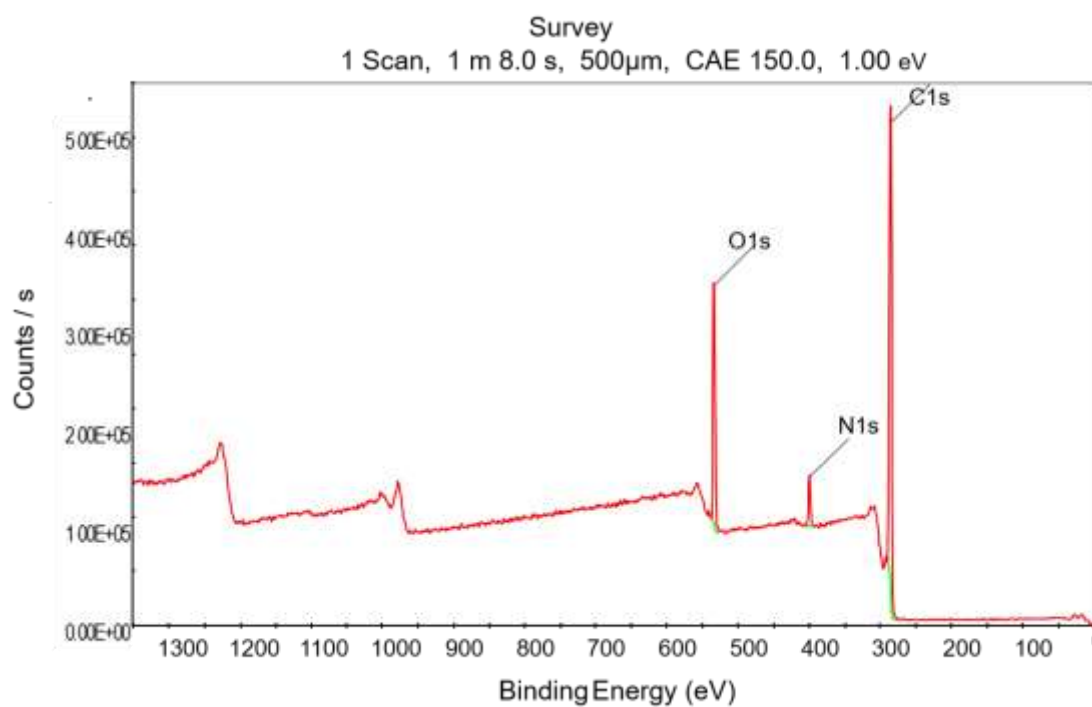
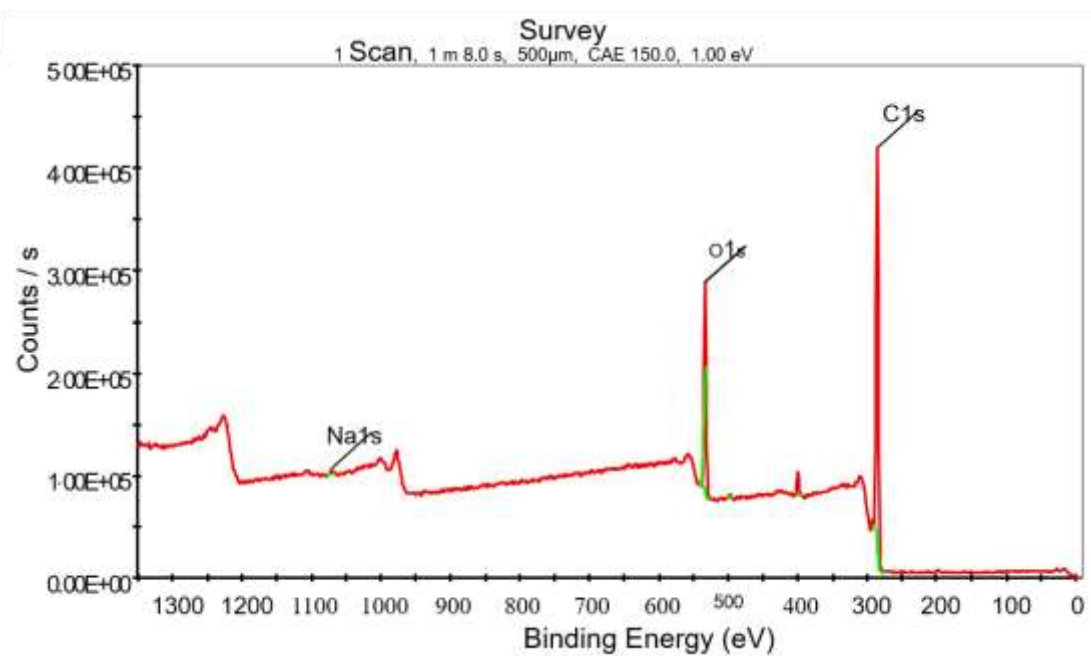


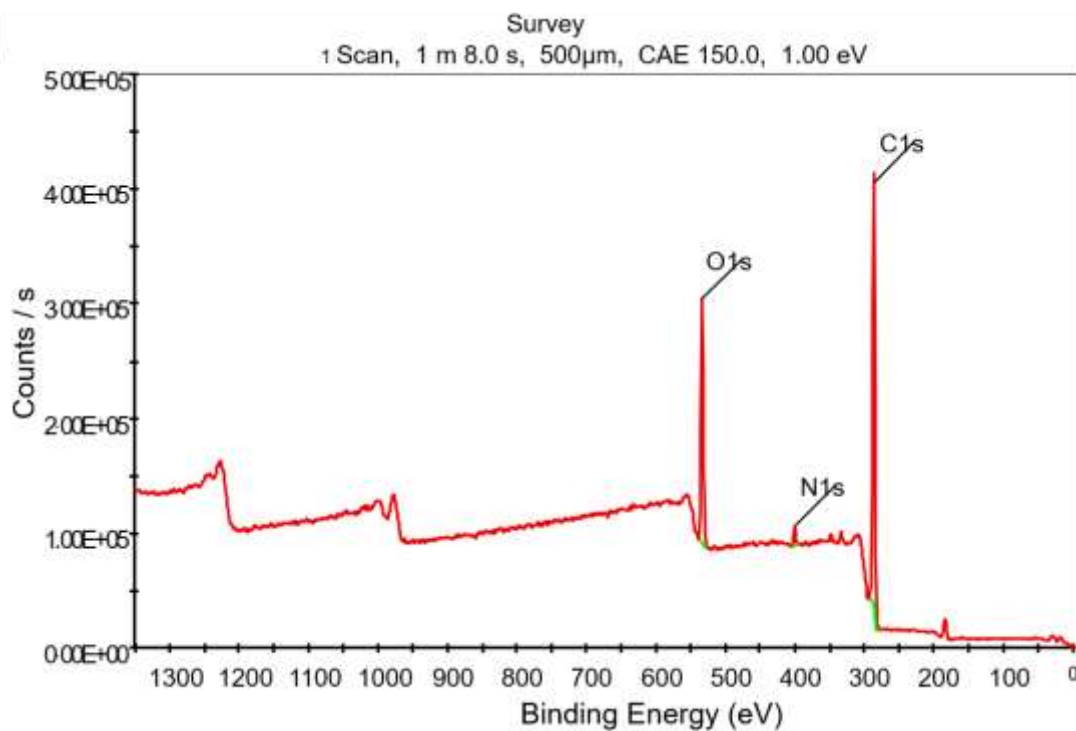
Figure S3 Dissolution profiles of different formulations. (a) Dissolution profiles of raw drug, CCS-CPA physical mixture and corresponding nanosuspension. (b) Dissolution profiles of raw drug, TPGS-CPA physical mixture and corresponding nanosuspension. (c) Dissolution profiles of raw drug, PVP VA64-CPA physical mixture and corresponding nanosuspension.



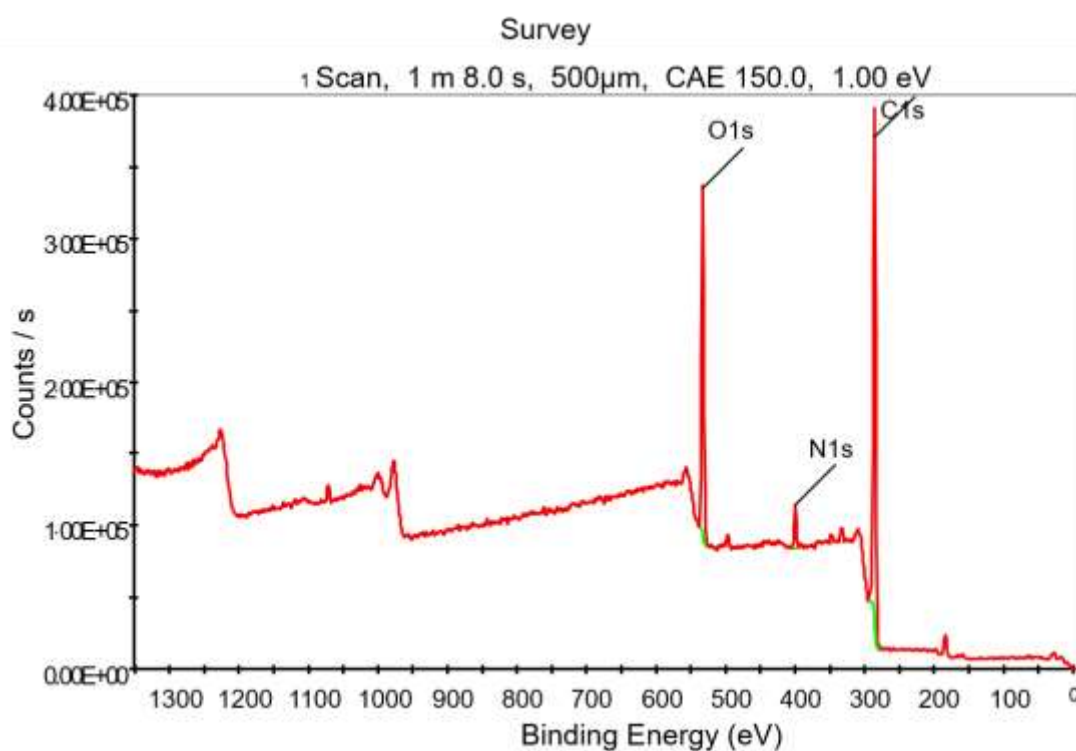
(a)



(b)



(c)



(d)

Figure S4 Survey scan (0-1300 eV) scanning of pure CPA (a), CCS-CPA NS (b), TPGS-CPA NS (c) and PVP VA64-CPA NS (d).

Supplementary Tables

Table S1. Formulations and process parameters of the milled drug suspensions.

Formulation	Stabilizer	Rotating speed (rpm)	Time (min)	Drug: Stabilizer (w/w)
CCS-CPA NS	CCS	2400	30	5:1
TPGS-CPA NS	TPGS	2400	30	5:1
PVP VA64-CPA NS	PVP VA64	2400	30	5:1

Table S2. Similarity factor values of each two of release profiles from pure CPA, physical mixture and nanosuspension.

Formulation	f_2		
	CCS	TPGS	PVP VA64
physical mixture ^a	57.32	59.28	58.14
Nanosuspensions ^b	14.92	9.65	36.21

a: compared with pure CPA

b: compared with the corresponding physical mixture