

Supplementary information

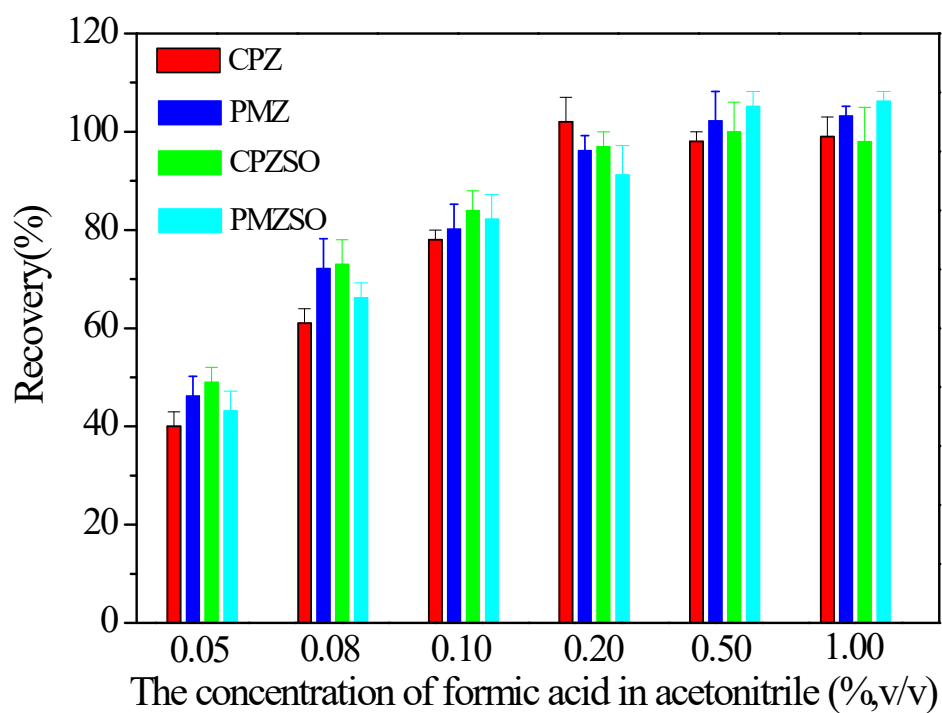


Fig. S1 Effect of the concentration of formic acid in acetonitrile on the recoveries of CPZ, PMZ, CPZSO and PMZSO.

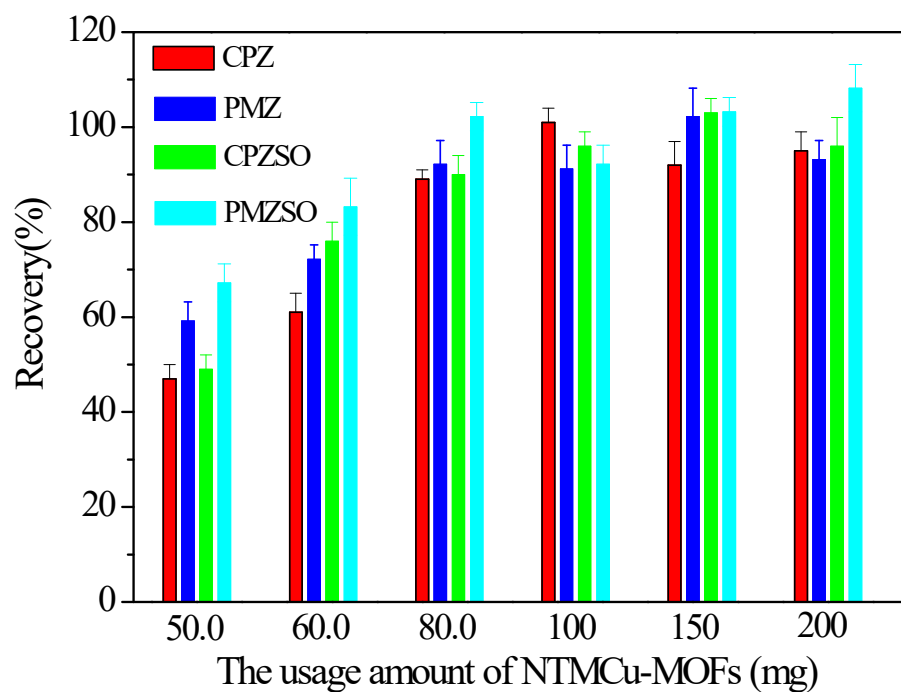


Fig. S2 Effect of the usage amount of NTMCu-MOFs on the recoveries of CPZ, PMZ,

CPZSO and PMZSO

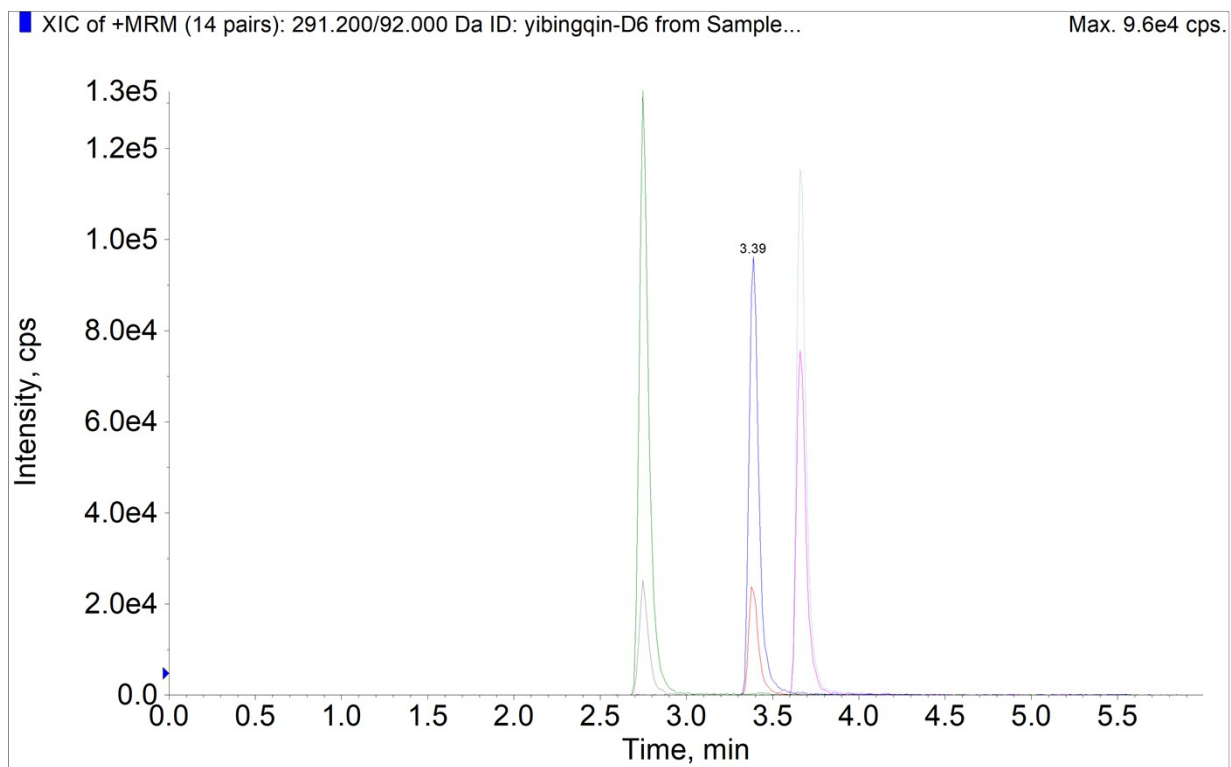


Fig. S3 MRM chromatograms for the blank human plasma.

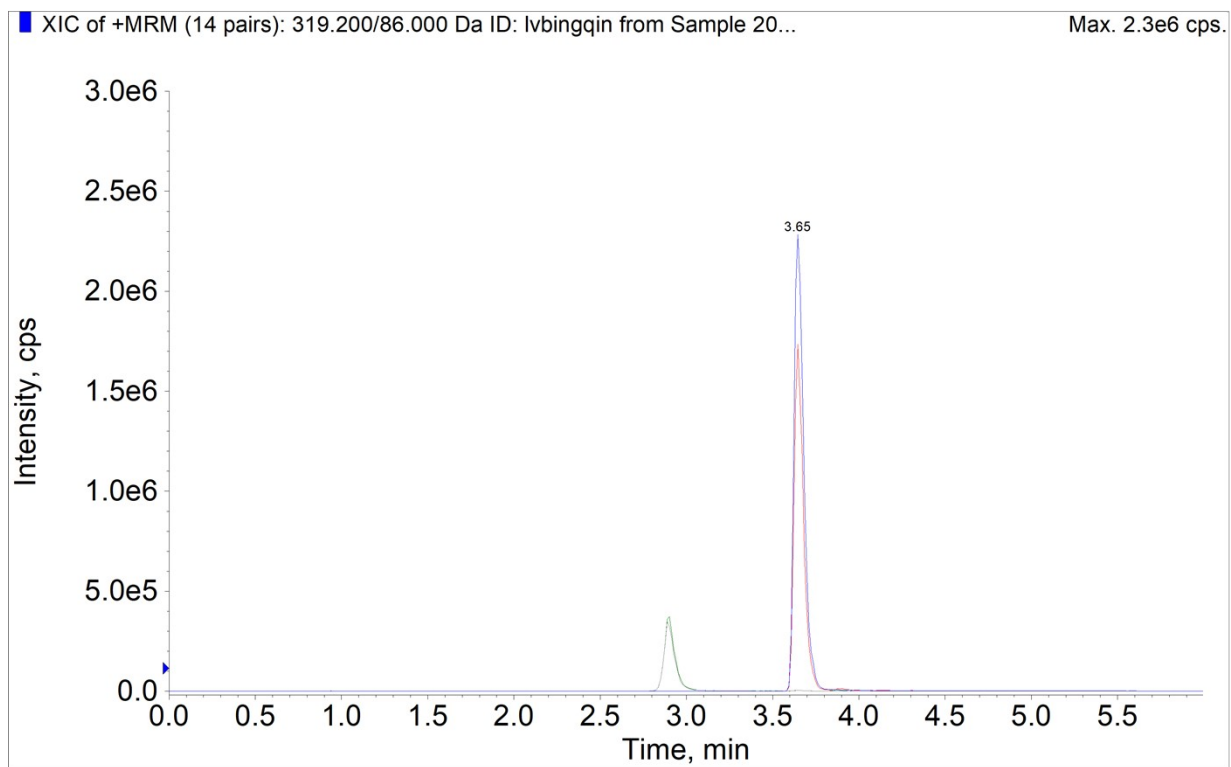


Fig. S4 The MRM chromatograms for one typical sample.

Table S1 Comparison of the analytical features of current LC-MS based methodologies for the determination of phenothiazine drugs. in various matrices

Sample	Analytes	Sample preparation (main steps)	LC column	LC parameters	Method LOQ	Reference
Human plasma	Chlorpromazine, olanzapine, quetiapine, et al. antipsychotics	Disposable pipette extraction	XSelects CSH C18 (2.5 μ m, 2.1 \times 100 mm)	Mobile phase: ammonium acetate solution 5 mmol/L (with formic acid 0.1%) and acetonitrile with gradient elution, 0.30 mL/min, injection volume: 5 μ L	0.5~20 μ g/L	[30]
Human plasma	Chlorpromazine, olanzapine, quetiapine, et al. antipsychotics	Liquid liquid extraction	XSelects CSH C18 (2.5 μ m, 2.1 \times 100 mm)	Mobile phase: ammonium acetate solution 5 mmol/L (with formic acid 0.1%) and acetonitrile with gradient elution, 0.30 mL/min, injection volume: 10 μ L	0.2~5.0 μ g/L	[31]
Human plasma	Chlorpromazine, olanzapine, quetiapine, et al. antipsychotics	Microextraction by packed sorbent	XSelects CSH C18 (2.5 μ m, 2.1 \times 100 mm)	Mobile phase: ammonium acetate solution 5 mmol/L (with formic acid 0.1%) and acetonitrile with gradient elution, 0.30 mL/min, injection volume: 10 μ L	0.05~1.0 μ g/L	[32]
Human plasma	Chlorpromazine, promethazine, chlorpromazine sulphoxide, and promethazine sulfoxide	NTMCu-MOFs on-line pass-through cleanup procedure	ACQUITY UPLC [®] HSS T3(1.8 μ m, 100mm \times 2.1mm)	Mobile phase: 0.1% formic acid (v/v) in acetonitrile (A) and 0.1% formic acid (v/v) in water (B) with gradient elution, 0.35 mL/min, injection volume: 10 μ L	0.040-0.079 μ g/L	This work