

Electronic Supplementary Information

A stir bar sorptive extraction coupled with gas chromatography flame ionization detector for the determination of abused prescription drugs in lean cocktail samples

Kamonwan Nualdee^{a, ‡}, Ratchaneekorn Buain^{a, ‡}, Benjamas Janchawee^a,
Warakorn Sukree^{c,d,e}, Chongdee Thammakhet-Buranachai^{c,d,e}, Proespichaya Kanatharana^{c,d,e},
Korbua Chaisiwamongkholf^{f,g}, Sathaporn Prutipanlai^a, Apichai Phonchai^{a,b,*}

^aDivision of Health and Applied Sciences, Faculty of Science, Prince of Songkla University, Hat
Yai, Songkhla 90112, Thailand

^bForensic Science Innovation and Service Center, Prince of Songkla University, Hat Yai,
Songkhla 90112, Thailand

^cCenter of Excellence for Trace Analysis and Biosensor, Prince of Songkla University, Hat Yai,
Songkhla 90112, Thailand

^dCenter of Excellence for Innovation in Chemistry, Faculty of Science, Prince of Songkla
University, Hat Yai, Songkhla 90112, Thailand

^eDivision of Physical Science, Faculty of Science, Prince of Songkla University, Hat Yai, Songkhla
90112, Thailand

^fSchool of Science, Mae Fah Luang University, Chiang Rai 57100, Thailand

^gCenter of Chemical Innovation for Sustainability (CIS), Mae Fah Luang University, Chiang Rai
57100, Thailand

* E-mail address: apichai.ph@psu.ac.th (A. Phonchai)

*Corresponding author: Tel.: +66 74288562; fax: +66 74288561.

[‡]These authors contributed equally to this work.

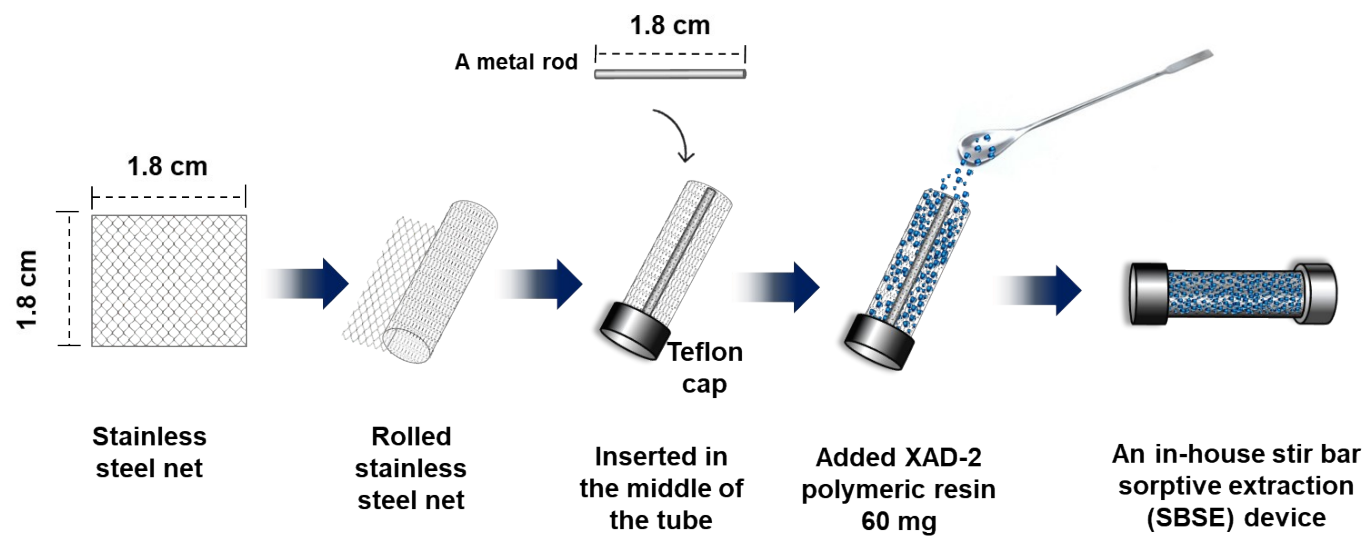


Fig. S1 A schematic diagram representative an in-house SBSE device.

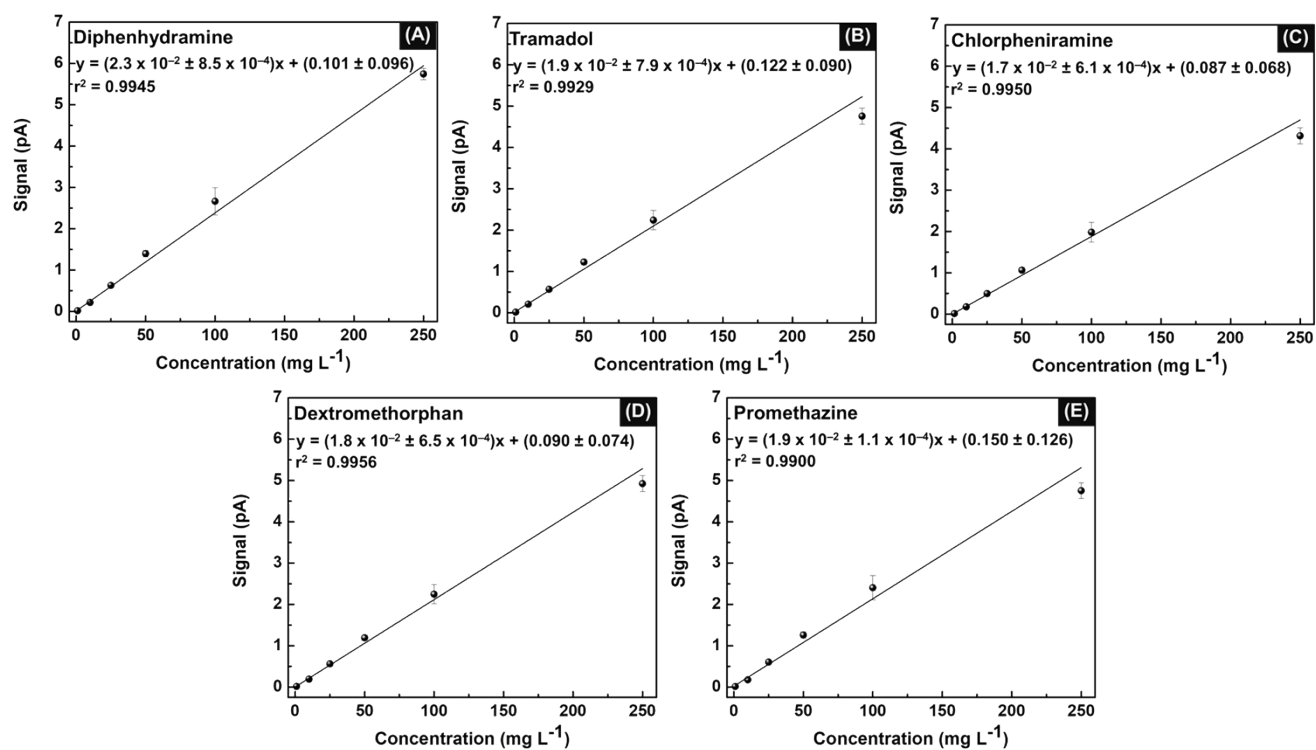


Fig. S2 Calibration curves for diphenhydramine, tramadol, chlorpheniramine, dextromethorphan and promethazine.

Table S1 Experimental parameter optimized for in-house SBSE procedure.

Experimental parameter	Optimization value	Optimum condition
Amount of XAD-2 absorbent (mg)	30, 45, 60	60
pH of sample solution	4, 6, 8, 10, 12, 14	12
Type of desorption solvent	Methanol, ethanol, acetonitrile, ethyl acetate	Acetonitrile
Extraction time (min)	5, 10, 20, 30, 45	30
Stirring speed (rpm)	500, 600, 700, 750, 800, 900, 1000	750
Salting out effect (% w/v)	0, 5, 10, 15, 20	10
Desorption time (min)	1, 3, 5, 10, 20, 30	5
Desorption solvent volume (mL)	1.0, 2.0, 2.5, 3.0	2.0