Carbonized loofah sponge-based solid-phase extraction of benzo[a]pyrene from fish followed by liquid chromatography-ultraviolet detection

Yaqi Zhu^{a,b}, Saiyi Zhong^b, 'Xitian Peng^{c,*}, Qiongwei Yu^{a,*}, Yuqi Feng^a

^a Department of Chemistry, Wuhan University, Wuhan 430072, People's Republic of China

^b Guangdong Provincial Key Laboratory of Aquatic Product Processing and Safety, Zhanjiang 524088, China

^c Institute of Agricultural Quality Standards and Testing Technology Research, Hubei Academy of Agricultural Sciences/Hubei Key Laboratory of Nutritional Quality and Safety of Agro products, Wuhan 430064, Hubei, People's Republic of China

*Corresponding author:

Qiongwei Yu

E-mail: qwyu@whu.edu.cn

Xitian Peng

E-mail: pxitian@aliyun.com



Fig. S1 FTIR of LC and CLS at different carbonization temperatures (350°C, 400°C, 450°C, 500°C, 550°C and 600°C).

		LS	350°C	400°C	450°C	500°C	550°C	600°C
XPS	O/C Wt	0.80	0.25	0.23	0.22	0.19	0.16	0.15
	(O+N)/C Wt	0.84	0.27	0.25	0.23	0.21	0.18	0.17
EDS	O/C Wt	0.80	0.27	0.21	0.20	0.17	0.13	0.10
	(O+N)/C Wt	0.82	0.31	0.26	0.23	0.20	0.17	0.14

Table S1 XPS and EDS of LS and CLS at different carbonization temperatures

Table S2 Specific surface area of LC and CLS at different carbonization temperatures

	LS	350°C	400°C	450°C	500°C	550°C	600°C
Specific Surface Area(m²/g)	0.24	2.97	5.82	7.81	8.52	9.72	11.21

Table S3 Optimization of USE extraction times

Times	1	2	3
Recoveries (%)	108.6	109.1	105.3
RSDs (%)	1.4	0.7	1.1

Table S4 Recoveries and RSD under ten times of SPE cartridge reuse

Times	1	2	3	4	5	6	7	8	9	10	RSD (%)
Recoveries (%)	89.9	90.6	89.2	91.2	91.9	89.6	91.1	88.4	90.5	91.6	1.2

	Skin	Muscle	Mixture
Bap (ng/g)	109.8	28.2	36.6
RSDs% (n=3)	0.8	3.4	2.6

Table S5 BaP content in fish skin, muscle, and skin-muscle mixture of cleaned crucian

 carp