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SUPPLEMENTARY MATERIAL TO

Acetic acid liquid-liquid extraction and UHPLC-DAD detection of polycyclic aromatic hydrocarbons in toasted and fried foods

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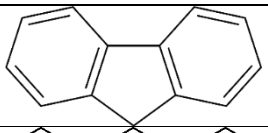
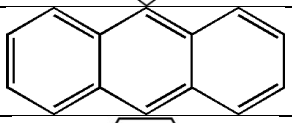
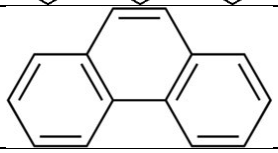
Table S1: List of selected PAHs with structures, molecular weights and IARC group classification.

Molecular arrangement	Type of PAH	Structure	MW	IARC Group
Linear	Flourene (FLR)		166	3
	Anthracene (ANT)		178	3
	Phenanthrene (PHE)		178	3

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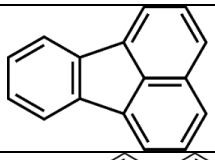
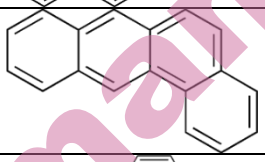
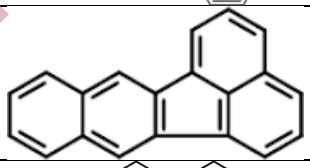
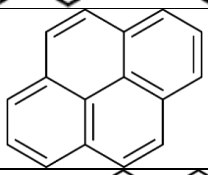
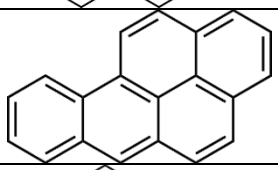
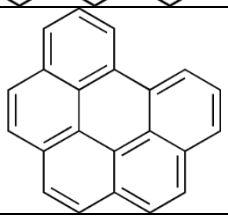
Molecular arrangement	Type of PAH	Structure	MW	IARC Group
Angular	Fluoranthene (FLT)		202	3
	Chrysene (CHR)		228	2B
	Benzo[a]anthracene (BaA)		228	2B
	Benzo[b]fluoranthene (BbF)		252	2B
	Benzo[k]fluoranthene (BkF)		252	2B
Cluster	Pyrene (PYR)		202	3
	Benzo[a]pyrene (BaP)		252	1
	Benzo[ghi]perylene (BghiP)		276	3

Table S2: Acid composition effects on the percentage recoveries of Chapati and Keropok Lekor

b4 spe 0% acid (Chapati)

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery, %
11.082 - 11.085	FLR	0.5179	0.5267	0.5340	0.5262	0.0081	1.5393	6.139	26.34
11.735 - 11.754	PHE	0.5925	0.5708	0.5869	0.5834	0.0113	1.9369	6.8063	26.43
12.208 - 12.212	ANT	0.4709	0.4703	0.4722	0.4711	0.0010	0.2123	5.4962	33.94
13.375 - 13.376	FLT	0.4882	0.4878	0.4893	0.4884	0.0008	0.1638	5.698	73.36
14.068 - 14.069	PYR	0.4841	0.4829	0.4835	0.4835	0.0006	0.1241	5.6408	54.80
16.448 - 16.450	CHR	0.7286	0.7115	0.7323	0.7241	0.0111	1.5329	8.4478	36.28
16.915 - 16.917	B[a]A	0.4792	0.4874	0.4832	0.4833	0.0041	0.8483	5.6385	85.50
18.802 - 18.805	B[b]F	0.6631	0.6936	0.6798	0.6788	0.0153	2.254	7.9193	34.38
21.462 - 21.467	B[k]F	0.9648	0.9798	0.9565	0.9670	0.0118	1.2203	11.2817	121.11
23.128 - 23.129	B[a]P	0.6947	0.6980	0.6864	0.6930	0.0060	0.8658	8.085	35.13
26.288 - 26.290	B[ghi]P	0.6025	0.6098	0.6035	0.6053	0.0040	0.6608	7.0618	86.87
						0.01	1.03		55.83

b4 spe 50% acid

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery, %
11.038 - 11.039	FLR	0.5691	0.5723	0.5685	0.5700	0.0020	0.3509	6.6500	28.53
11.698 - 11.701	PHE	0.6116	0.6278	0.6220	0.6205	0.0082	1.3215	7.2392	28.11
12.178 - 12.182	ANT	0.4341	0.4356	0.4358	0.4352	0.0009	0.2068	5.0773	31.35
13.118 - 13.119	FLT	0.3679	0.3682	0.3675	0.3679	0.0004	0.1087	4.2922	55.26
14.038 - 14.040	PYR	0.3648	0.3645	0.3653	0.3649	0.0004	0.1096	4.2572	41.36
16.405 - 16.407	CHR	0.6202	0.6214	0.6223	0.6213	0.0011	0.1770	7.2485	31.13
16.865 - 16.867	B[a]A	0.4547	0.4564	0.4553	0.4555	0.0009	0.1976	5.3142	80.58
18.945 - 18.947	B[b]F	0.4706	0.4712	0.4709	0.4709	0.0003	0.0637	5.4938	23.85
21.418 - 21.420	B[k]F	0.6728	0.6565	0.6674	0.6656	0.0083	1.2470	7.7653	83.36
23.105 - 23.106	B[a]P	0.4519	0.4579	0.4543	0.4547	0.0030	0.6598	5.3048	23.05
26.285 - 26.286	B[ghi]P	0.3977	0.3986	0.3965	0.3976	0.0011	0.2767	4.6387	57.07
						0.00	0.43		43.97

b4 spe 30% acid

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery, %
10.697 - 10.696	FLR	0.5829	0.6003	0.5934	0.5922	0.0088	1.4860	6.909	29.64
11.384 - 11.383	PHE	0.6006	0.6155	0.6076	0.6079	0.0075	1.2338	7.0922	27.54
11.877 - 11.883	ANT	0.5257	0.5355	0.5450	0.5354	0.0097	1.8117	6.2463	38.57
13.077 - 13.076	FLT	0.8150	0.8930	0.8870	0.8650	0.0434	5.0173	10.0917	129.92
13.744 - 13.749	PYR	0.9461	0.9091	0.9568	0.9373	0.0250	2.6672	10.9352	106.23
16.031 - 16.036	CHR	0.7350	0.7458	0.7246	0.7351	0.0106	1.4420	8.5762	36.83
16.471 - 16.476	B[a]A	0.6844	0.6941	0.6843	0.6876	0.0056	0.8144	8.022	121.64
20.958 - 20.963	B[b]F	1.0389	1.0632	1.0498	1.0506	0.0122	1.1612	12.257	53.21
22.838 - 22.843	B[k]F	0.8031	0.8058	0.8029	0.8039	0.0016	0.1990	9.3788	100.68
26.171 - 26.176	B[a]P	0.7736	0.7771	0.7754	0.7754	0.0018	0.2321	9.0463	39.30
27.118 - 27.123	B[ghi]P	0.6762	0.6718	0.6772	0.6751	0.0029	0.4296	7.8762	96.89
						0.01	1.50		70.95

b4 spe 70% acid

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery, %
10.687 - 10.689	FLR	0.4461	0.4573	0.4501	0.4512	0.0057	1.2633	5.2640	22.58
11.374 - 11.375	PHE	0.4821	0.4859	0.4903	0.4861	0.0041	0.8434	5.6712	22.03
11.874 - 11.876	ANT	0.4155	0.4344	0.4256	0.4252	0.0095	2.2342	4.9607	30.63
13.067 - 13.069	FLT	0.3553	0.3558	0.3565	0.3559	0.0006	0.1686	4.1522	53.46
13.734 - 13.735	PYR	0.3562	0.3578	0.3567	0.3569	0.0008	0.2242	4.1638	40.45
16.007 - 16.011	CHR	0.4992	0.4865	0.4799	0.4885	0.0098	2.0061	5.6992	24.47
16.447 - 16.479	B[a]A	0.3516	0.3524	0.3535	0.3525	0.0010	0.2837	4.1125	62.36
20.901 - 20.902	B[b]F	0.5964	0.5898	0.5877	0.5913	0.0045	0.7610	6.8985	29.95
22.814 - 22.817	B[k]F	0.4730	0.4645	0.4685	0.4687	0.0043	0.9174	5.4682	58.70
25.794 - 25.803	B[a]P	0.4741	0.4799	0.4695	0.4745	0.0052	1.0959	5.5358	24.05
26.714 - 26.716	B[ghi]P	0.3584	0.3568	0.3575	0.3576	0.0008	0.2237	4.1720	51.32
						0.00	0.91		38.18

after spe 0% acid (chapati)

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual Area	Percentage recovery
11.082	FLR	1.0554	1.1069	1.0721	1.0781	0.0263	2.4371	2.0125	8.63
11.735	PHE	1.5543	1.6754	1.5596	1.5964	0.0684	4.2870	2.9800	11.57
12.208	ANT	1.0219	1.1254	1.0965	1.0813	0.0534	4.9391	2.0184	12.46
13.375	FLT	0.6428	0.6457	0.7032	0.6639	0.0341	5.1311	1.2393	15.95
14.068	PYR	0.6524	0.6555	0.6987	0.6689	0.0259	3.8697	1.2486	12.13
16.448	CHR	3.0426	3.1067	3.0945	3.0813	0.0340	1.1047	5.7517	24.70
16.915	B[a]A	1.0284	1.1002	1.0765	1.0684	0.0366	3.4243	1.9943	30.24
18.802	B[b]F	5.0795	5.1324	5.1209	5.1109	0.0278	0.5444	9.5404	41.42
21.462	B[k]F	2.5481	2.6745	2.7863	2.6696	0.1192	4.4641	4.9833	53.50
23.128	B[a]P	1.0557	1.1243	1.1112	1.0971	0.0364	3.3196	2.0479	8.90
26.288	B[ghi]P	0.3567	0.3499	0.3754	0.3607	0.0132	3.6612	0.6732	8.28
						0.04	3.38		20.71

50%

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual Area	Percentage Recovery
11.038	FLR	1.1293	1.2435	1.1897	1.1875	0.0571	4.8111	2.2167	9.51
11.698	PHE	1.0747	1.1360	1.1422	1.1176	0.0373	3.3383	2.0862	8.10
12.178	ANT	1.0147	1.0648	1.0993	1.0596	0.0425	4.0146	1.9779	12.21
13.338	FLT	0.5941	0.5842	0.5681	0.5821	0.0131	2.2542	1.0866	13.99
14.038	PYR	1.0059	1.0102	1.0566	1.0242	0.0281	2.7448	1.9119	18.57
16.405	CHR	2.9540	2.7932	3.0020	2.9164	0.1094	3.7498	5.4439	23.38
16.865	B[a]A	0.4644	0.4986	0.4761	0.4797	0.0174	3.6235	0.8954	13.58
21.418	B[b]F	4.6202	4.7843	4.9037	4.7694	0.1423	2.9844	8.9029	38.65
22.996	B[k]F	2.4443	2.5637	2.6424	2.5501	0.0997	3.9113	4.7602	51.10
23.105	B[a]P	2.4402	2.6597	2.5553	2.5517	0.1098	4.3027	4.7632	20.70
26.285	B[ghi]P	1.0626	1.1165	1.0954	1.0915	0.0272	2.4884	2.0375	25.07
						0.06	3.47		21.35

30%

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual Area	Percentage recovery
10.697	FLR	1.0560	1.0965	1.1132	1.0886	0.0294	2.7021	2.0320	8.72
11.384	PHE	1.5687	1.6589	1.7231	1.6502	0.0776	4.7002	3.0804	11.96
11.877	ANT	1.0409	1.1004	1.2583	1.1332	0.1124	9.9144	2.1153	13.06
13.077	FLT	0.6490	0.6543	0.6994	0.6676	0.0277	4.1487	1.2461	16.04
13.744	PYR	1.0611	1.1665	1.2312	1.1529	0.0859	7.4469	2.1521	20.91
16.031	CHR	3.0597	3.0954	3.1287	3.0946	0.0345	1.1151	5.7766	24.81
16.471	B[a]A	1.0683	1.1798	1.0954	1.1145	0.0582	5.2178	2.0804	31.55
20.958	B[b]F	5.3740	5.4744	5.7562	5.5349	0.1981	3.5799	10.3318	44.85
22.838	B[k]F	3.0156	3.1743	3.2133	3.1344	0.1047	3.3408	5.8509	62.81
23.541	B[a]P	5.0673	5.1639	5.2004	5.1439	0.0688	1.3370	9.6019	41.72
26.171	B[ghi]P	0.6091	0.6111	0.6324	0.6175	0.0129	2.0912	1.1527	14.18
						0.07	4.14		26.42

70%

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual Area	Percentage recovery
10.966	FLR	1.2609	1.3002	1.2856	1.2822	0.0199	1.5493	2.3935	10.27
11.619	PHE	1.0992	1.1003	1.1760	1.1252	0.0440	3.9129	2.1003	8.16
12.099	ANT	1.0189	1.0675	1.0483	1.0449	0.0245	2.3426	1.9505	12.04
13.252	FLT	0.5942	0.6012	0.5895	0.5950	0.0059	0.9896	1.1106	14.30
13.932	PYR	1.0057	1.0105	1.0099	1.0087	0.0026	0.2593	1.8829	18.29
16.219	CHR	2.2442	2.3222	2.3451	2.3038	0.0529	2.2961	4.3005	18.47
16.659	B[a]A	0.6945	0.6351	0.6744	0.6680	0.0302	4.5229	1.2469	18.91
21.092	B[b]F	4.6834	4.6633	5.0734	4.8067	0.2312	4.8097	8.9725	38.95
22.906	B[k]F	2.3394	2.4531	2.5211	2.4379	0.0918	3.7657	4.5507	48.85
24.013	B[a]P	2.3453	2.3456	2.6759	2.4556	0.1908	7.7694	4.5838	19.92
26.166	B[ghi]P	1.0542	1.1029	1.0931	1.0834	0.0258	2.3775	2.0223	24.88
						0.07	3.14		21.18

b4 spe 0% acid (keropok)

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery, %
10.787	FLR	2.0210	2.1431	2.0653	2.0765	0.0618	2.9762	24.2258	103.94
11.480	PHE	2.6664	2.6576	2.6897	2.6712	0.0166	0.6214	31.1640	121.03
11.987	ANT	1.7003	1.7898	1.7789	1.7563	0.0488	2.7786	20.4902	126.53
13.187	FLT	0.6936	0.6795	0.6884	0.6872	0.0071	1.0332	8.0173	103.22
13.914	PYR	0.8855	0.8663	0.8923	0.8814	0.0135	1.5317	10.2830	99.90
16.267	CHR	2.4523	2.4442	2.4002	2.4322	0.0280	1.1512	28.3757	121.86
16.727	B[a]A	0.2017	0.2135	0.2069	0.2074	0.0059	2.8447	2.4197	36.69
21.374	B[b]F	1.8814	1.9856	1.8790	1.9153	0.0609	3.1797	22.3452	97.01
22.180	B[k]F	0.7925	0.7734	0.7888	0.7849	0.0101	1.2868	9.1572	98.30
23.140	B[a]P	1.8112	1.8537	1.8945	1.8531	0.0417	2.2503	21.6195	93.93
26.360	B[ghi]P	0.7488	0.7675	0.7590	0.7584	0.0094	1.2395	8.8480	108.85
						0.03	1.90		101.02

b4 spe 50%

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery, %
10.852	FLR	0.8336	0.8365	0.8456	0.8386	0.0063	0.7513	9.7837	41.98
11.546	PHE	1.0769	1.0993	1.0841	1.0868	0.0114	1.0490	12.6793	49.24
12.052	ANT	0.7972	0.7870	0.7534	0.7792	0.0229	2.9389	9.0907	56.14
13.259	FLT	0.3491	0.3297	0.3354	0.3381	0.0100	2.9577	3.9445	50.78
13.986	PYR	0.4174	0.4099	0.4200	0.4158	0.0052	1.2506	4.8510	47.13
16.439	CHR	1.1752	1.1657	1.1865	1.1758	0.0104	0.8845	13.7177	58.91
16.926	B[a]A	0.3683	0.3798	0.3743	0.3741	0.0058	1.5504	4.3645	66.18
21.639	B[b]F	0.7790	0.7854	0.7812	0.7819	0.0033	0.4220	9.1222	39.60
22.399	B[k]F	0.3893	0.3907	0.3976	0.3925	0.0044	1.1210	4.5792	49.16
23.286	B[a]P	0.8466	0.8543	0.8632	0.8547	0.0083	0.9711	9.9715	43.32
26.446	B[ghi]P	0.8044	0.8102	0.8089	0.8078	0.0030	0.3714	9.4243	115.94
						0.01	1.30		56.22

b4 spe 30%

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery, %
10.856	FLR	2.1226	2.1354	2.1456	2.1345	0.0115	0.5388	24.9025	106.84
11.549	PHE	2.7972	2.7786	2.7893	2.7884	0.0093	0.3335	32.5313	126.34
12.056	ANT	1.7751	1.7884	1.7902	1.7846	0.0082	0.4595	20.8203	128.57
13.276	FLT	0.7238	0.7343	0.7297	0.7293	0.0053	0.7267	8.5085	109.54
13.982	PYR	0.9254	0.9854	0.9533	0.9547	0.0300	3.1423	11.1382	108.20
16.476	CHR	2.6558	2.6699	2.6705	2.6654	0.0083	0.3114	31.0963	133.54
16.976	B[a]A	0.2659	0.2765	0.2831	0.2752	0.0087	3.1613	3.2107	48.68
21.729	B[b]F	2.0089	2.1001	2.0065	2.0385	0.0534	2.6196	23.7825	103.25
22.469	B[k]F	0.8337	0.8376	0.8431	0.8381	0.0047	0.5608	9.7778	104.97
23.322	B[a]P	1.8609	1.8953	1.8532	1.8698	0.0224	1.1980	21.8143	94.78
26.456	B[ghi]P	0.9653	0.9703	0.9876	0.9744	0.0117	1.2007	11.3680	139.85
						0.02	1.30		109.51

b4 spe 70%

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery, %
10.874	FLR	1.7364	1.7675	1.7743	1.7594	0.0202	1.1481	20.5263	88.07
11.568	PHE	2.2987	2.2876	2.2697	2.2853	0.0146	0.6389	26.6618	103.55
12.074	ANT	1.6265	1.6345	1.6299	1.6303	0.0040	0.2454	19.0202	117.45
13.288	FLT	0.5847	0.5987	0.5905	0.5913	0.0070	1.1838	6.8985	88.81
14.014	PYR	0.7454	0.7555	0.7398	0.7469	0.0080	1.0711	8.7138	84.65
16.501	CHR	2.5537	2.5435	2.5421	2.5464	0.0063	0.2474	29.7080	127.58
16.994	B[a]A	0.3143	0.3131	0.3203	0.3159	0.0039	1.2346	3.6855	55.88
21.714	B[b]F	1.5903	1.5876	1.5799	1.5859	0.0054	0.3405	18.5022	80.32
22.481	B[k]F	0.6642	0.6543	0.6621	0.6602	0.0052	0.7876	7.7023	82.68
23.348	B[a]P	1.4723	1.4689	1.4645	1.4686	0.0039	0.2656	17.1337	74.44
26.474	B[ghi]P	0.9172	0.9108	0.9143	0.9141	0.0032	0.3501	10.6645	131.20
						0.01	0.68		94.06

after spe 0% acid (keropok)

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery, %
10.901	FLR	4.1033	4.2121	4.2198	4.1784	0.0652	1.5604	7.7997	33.46
11.594	PHE	4.6047	4.6298	4.6423	4.6256	0.0191	0.4129	8.6345	33.53
12.101	ANT	4.2324	4.3354	4.3043	4.2907	0.0528	1.2306	8.0093	49.46
13.321	FLT	3.5295	3.5505	3.6465	3.5755	0.0624	1.7452	6.6743	85.93
14.047	PYR	3.7780	3.8912	3.7856	3.8183	0.0633	1.6578	7.1275	69.24
16.581	CHR	6.2677	6.3232	6.3797	6.3235	0.0560	0.8856	11.8039	50.69
17.087	B[a]A	3.4819	3.5921	3.4869	3.5203	0.0622	1.7669	6.5712	99.64
21.854	B[b]F	2.7390	2.7456	2.8632	2.7826	0.0699	2.5120	5.1942	22.55
22.574	B[k]F	4.1808	4.2997	4.2044	4.2283	0.0630	1.4900	7.8928	84.73
23.414	B[a]P	5.9994	5.9812	6.0736	6.0181	0.0489	0.8125	11.2338	48.81
26.514	B[ghi]P	2.7229	2.7354	2.8429	2.7671	0.0660	2.3852	5.1653	63.54
						0.06	1.50		58.33

after spe 50%

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery, %
10.941	FLR	3.7355	3.8876	3.9821	3.8684	0.1244	3.2158	7.2210	30.98
11.635	PHE	4.1588	4.1698	4.3001	4.2096	0.0786	1.8672	7.8579	30.52
12.141	ANT	3.8868	3.9945	3.7612	3.8808	0.1168	3.0097	7.2442	44.73
13.368	FLT	3.3927	3.3021	3.2980	3.3309	0.0535	1.6062	6.2177	80.05
14.095	PYR	3.5552	3.4673	3.5025	3.5083	0.0442	1.2599	6.5488	63.62
16.668	CHR	5.5764	5.5551	5.7322	5.6212	0.0967	1.7203	10.4929	45.06
17.195	B[a]A	2.5830	2.8431	2.6983	2.7081	0.1303	4.8115	5.0551	76.65
21.968	B[b]F	4.9925	4.9824	4.7527	4.9092	0.1356	2.7622	9.1638	39.78
22.661	B[k]F	3.8552	3.7982	3.6548	3.7694	0.1033	2.7405	7.0362	75.53
23.475	B[a]P	5.1392	5.0012	5.2234	5.1213	0.1122	2.1908	9.5598	41.53
26.541	B[ghi]P	3.4720	3.4985	3.5109	3.4938	0.0199	0.5696	6.5218	80.23
						0.09	2.34		55.34

after spe 30%

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual Area	Percentage recovery, %
10.937	FLR	3.1960	3.2823	3.1905	3.2229	0.0515	1.5979	6.0161	25.81
11.630	PHE	3.3080	3.3156	3.4249	3.3495	0.0654	1.9525	6.2524	24.28
12.137	ANT	3.2385	3.3467	3.4378	3.3410	0.0998	2.9871	6.2365	38.51
13.364	FLT	3.1018	3.2099	3.2156	3.1758	0.0641	2.0184	5.9282	76.32
14.090	PYR	3.1486	3.1973	3.1739	3.1733	0.0244	0.7689	5.9235	57.54
16.664	CHR	3.8360	3.5765	3.6522	3.6882	0.1334	3.6169	6.8846	29.57
17.190	B[a]A	3.3819	3.2991	3.3795	3.3535	0.0471	1.4045	6.2599	94.92
21.964	B[b]F	3.4950	3.5864	3.5790	3.5535	0.0508	1.4296	6.6332	28.80
22.664	B[k]F	3.2179	3.3223	3.2014	3.2472	0.0656	2.0202	6.0614	65.07
23.477	B[a]P	3.5340	3.6542	3.5829	3.5904	0.0604	1.6823	6.7021	29.12
26.544	B[ghi]P	3.7683	3.6954	3.7721	3.7453	0.0432	1.1534	6.9912	86.01
						0.06	1.88		50.54

after spe 70%

Retention times	Types of PAH	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery, %
10.922	FLR	5.3326	5.3698	5.4002	5.3675	0.0339	0.6316	10.0193	42.99
11.651	PHE	6.6239	6.7453	6.6984	6.6892	0.0612	0.9149	12.4865	48.49
12.122	ANT	5.7056	5.7239	5.8015	5.7437	0.0509	0.8862	10.7216	66.21
13.348	FLT	4.2066	4.2951	4.3011	4.2676	0.0529	1.2396	7.9662	102.56
14.075	PYR	4.7304	4.9346	4.8762	4.8471	0.1052	2.1704	9.0479	87.90
16.635	CHR	7.8997	7.6497	7.7767	7.7754	0.1250	1.6076	14.5141	62.33
17.155	B[a]A	3.6984	3.7003	3.8654	3.7547	0.0959	2.5541	7.0088	106.27
21.942	B[b]F	8.1168	8.1254	8.2288	8.1570	0.0623	0.7638	15.2264	66.10
22.642	B[k]F	2.5707	2.6503	2.7050	2.6420	0.0675	2.5549	4.9317	52.94
23.462	B[a]P	6.5675	6.6732	6.7899	6.6769	0.1112	1.6654	12.4635	54.15
26.542	B[ghi]P	3.0936	3.1231	3.1457	3.1208	0.0261	0.8363	5.8255	71.67
						0.07	1.44		69.24

Table S3: The extraction percentage recovery of different solvents

	Toluene							
	Area	Area	Area	Mean	Std	RSD	Actual Area	Percentage recovery
FLR	0.3874	0.3923	0.3744	0.3847	0.007553	1.963328	4.4882	19.26
PHE	0.2609	0.2791	0.2573	0.265767	0.009542	3.59035	3.1006	12.04
ANT	0.0928	0.0932	0.0943	0.093433	0.000634	0.678783	1.0901	6.73
FLT	0.3735	0.3521	0.3692	0.364933	0.009243	2.53273	4.2576	54.81
PYR	0.8802	0.8912	0.8739	0.881767	0.007149	0.810764	10.2873	99.94
CHR	0.9914	0.9993	0.9826	0.9911	0.006821	0.68823	11.5628	49.66
B[a]A	0.7039	0.7363	0.7985	0.746233	0.039254	5.260261	8.7061	132.01
B[b]F	0.4106	0.4287	0.4352	0.424833	0.010408	2.450005	4.9564	21.52
B[k]F	0.529	0.5381	0.5475	0.5382	0.007553	1.403368	6.279	67.41
B[a]P	0.1543	0.1634	0.1732	0.163633	0.007718	4.716433	1.9091	8.29
B[ghi]P	0.1548	0.1747	0.1636	0.164367	0.008142	4.953686	1.9176	23.59
					0.01	2.64		45.02

	Dichloromethane							
	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery
FLR	0.4652	0.4798	0.4593	0.4681	0.010553	2.254475	5.4612	23.43048125
PHE	0.6183	0.6222	0.6348	0.6251	0.008624	1.379588	7.2928	28.32309329
ANT	0.3301	0.3286	0.3188	0.325833	0.006137	1.883492	3.8014	23.47383631
FLT	0.0302	0.0312	0.0324	0.031267	0.001102	3.522966	0.3648	4.696552257
PYR	0.0028	0.0029	0.0032	0.002967	0.000208	7.016852	0.0346	0.336124658
CHR	0.8608	0.8795	0.8854	0.875233	0.012843	1.467383	10.2111	43.85043502
B[a]A	0.5091	0.5218	0.5132	0.5147	0.006482	1.25928	6.0048	91.05079606
B[b]F	2.4401	2.4566	2.4443	2.447	0.008575	0.350428	28.5483	123.9360617
B[k]F	0.123	0.1456	0.1327	0.133767	0.011338	8.475725	1.5606	16.75308364
B[a]P	0.2404	0.2546	0.2344	0.243133	0.010374	4.266665	2.8366	12.32430929
					0.01	3.19		36.82

	Ethanol							
	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery
FLR	0.271	0.3112	0.2989	0.2937	0.020598	7.013381	3.4265	14.70089797
PHE	0.3664	0.4071	0.3999	0.391133	0.02172	5.553123	4.5632	17.72212858
ANT	0.2289	0.2666	0.2435	0.246333	0.019009	7.716793	2.8739	17.74647713
FLT	0.1306	0.1263	0.1129	0.123267	0.009232	7.489169	1.4381	18.51456086
PYR	0.0949	0.1006	0.1058	0.100433	0.005452	5.428388	1.1717	11.38257981
CHR	0.4561	0.4553	0.4985	0.469967	0.024714	5.258634	5.4829	23.54570518
B[a]A	0.2964	0.4408	0.3426	0.359933	0.073744	20.48823	4.1992	63.67247915
B[b]F	0.5626	0.5791	0.6598	0.6005	0.052014	8.66174	7.0058	30.41411436
B[k]F	0.2044	0.2205	0.2197	0.214867	0.009073	4.222721	2.5068	26.91056649
B[a]P	0.8281	0.8791	0.8572	0.8548	0.025585	2.993047	9.9727	43.32885824
B[ghi]P	0.0856	0.0779	0.0933	0.0856	0.0077	8.995327	0.9987	12.28609741
					0.02	7.62		25.47

	Ethyl Acetate							
	Area	Area	Area	Mean	Std	RSD	Actua area	Percentage recovery
FLR	0.4968	0.4897	0.4721	0.4862	0.012717	2.615493	5.6723	24.33617498
PHE	0.6451	0.6243	0.6355	0.634967	0.01041	1.639496	7.4079	28.77010789
ANT	0.4452	0.4675	0.4733	0.462	0.014835	3.211132	5.39	33.28352126
FLT	0.3405	0.3298	0.3337	0.334667	0.005415	1.618058	3.9044	50.26649844
PYR	0.4569	0.4612	0.4924	0.470167	0.019374	4.120729	5.4853	53.28741573
CHR	1.0908	1.0032	1.0033	1.032433	0.050547	4.895913	12.0451	51.72634436
B[a]A	0.8711	0.8862	0.8532	0.870167	0.01652	1.898462	10.1519	153.9332828
B[b]F	0.1669	0.1698	0.1854	0.174033	0.00995	5.71732	2.0304	8.814527647
B[k]F	1.049	1.0961	1.0323	1.059133	0.033085	3.123789	12.3566	132.6484386
B[a]P	0.409	0.4342	0.4126	0.4186	0.013629	3.255944	4.8837	21.21844084
B[ghi]P	0.1554	0.1675	0.1722	0.165033	0.008667	5.251892	1.9254	23.68644433
					0.02	3.40		52.91

	Acetonitrile							
	Area	Area	Area	Mean	Std	RSD	Actual area	Percentage recovery
FLR	0.5829	0.6003	0.5934	0.5922	0.0088	1.486	6.909	29.6421
PHE	0.6006	0.6155	0.6076	0.6079	0.0075	1.2338	7.0922	27.544
ANT	0.5257	0.5355	0.545	0.5354	0.0097	1.8117	6.2463	38.5712
FLT	0.815	0.893	0.887	0.865	0.0434	5.0173	10.0917	129.9238
PYR	0.9461	0.9091	0.9568	0.9373	0.025	2.6672	10.9352	106.2309
CHR	0.735	0.7458	0.7246	0.7351	0.0106	1.442	8.5762	36.8295
B[a]A	0.6844	0.6941	0.6843	0.6876	0.0056	0.8144	8.022	121.6376
B[b]F	1.0389	1.0632	1.0498	1.0506	0.0122	1.1612	12.257	53.211
B[k]F	0.8031	0.8058	0.8029	0.8039	0.0016	0.199	9.3788	100.6817
B[a]P	0.7736	0.7771	0.7754	0.7754	0.0018	0.2321	9.0463	39.3039
B[ghi]P	0.6762	0.6718	0.6772	0.6751	0.0029	0.4296	7.8762	96.8937
					0.01	1.50		70.95

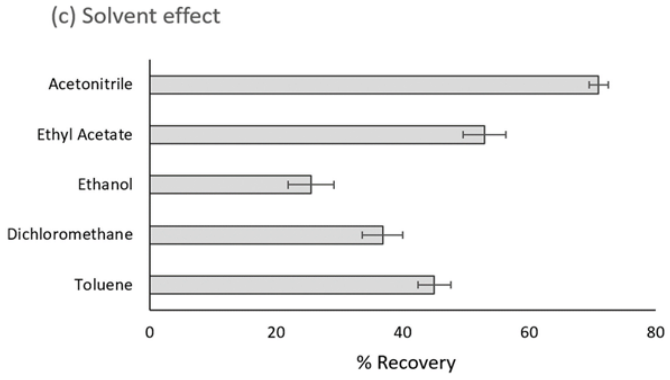


Table S4: Analytical characteristics of the HPLC method

PAH	Linear range (µg/L)	Regression equation	R^2	Intraday (%RSD) (n=3)		Interday (%RSD) (n=3)		LOD (µg/L)	LOQ (µg/L)
				t_R	Area	t_R	Area		
FLR	10 -1000	y = 0.0011x + 0.0018	0.9997	0.7560	2.6499	0.8400	1.7071	0.0457	0.1384
PHE	10 -1000	y = 0.0011x + 0.0131	0.9994	0.1098	1.5523	0.1220	1.0280	0.0474	0.1438
ANT	10 -1000	y = 0.0010x + 0.0039	0.9997	0.0706	1.8186	0.1085	1.8217	0.0335	0.1014
FLT	10 -1000	y = 0.0009x + 0.0058	0.9987	0.0860	2.4471	0.2096	2.4180	0.0049	0.0149
PYR	10 -1000	y = 0.0017x + 0.0415	0.9990	0.0716	1.9828	0.1796	3.2723	0.0835	0.2529
CHR	10 -1000	y = 0.0010x + 0.4640	0.9985	0.0927	3.7824	0.1030	1.1336	0.1043	0.4299
BaA	10 -1000	y = 0.0014x + 0.0581	0.9991	0.0301	1.2631	0.0935	1.3122	0.0584	0.1769
BbF	10 -1000	y = 0.0016x + 0.0533	0.9997	0.0341	1.9895	0.0579	3.4807	0.1056	0.3199
BkF	10 -1000	y = 0.0011x + 0.0331	0.9991	0.1079	3.0379	0.1199	1.3449	0.1119	0.3391
BaP	10 -1000	y = 0.0011x + 0.0515	0.9984	0.0686	1.1013	0.0762	3.1174	0.0977	0.2960
Ghi	10 -1000	y = 0.0012x + 0.0052	0.9985	0.3548	1.7688	0.5943	2.5433	0.1232	0.3732

x, concentration of amine (mg/L); y, peak area of SPAs; R^2, square of regression coefficient; LOD, limit of detection; LOQ, limit of quantification; RSD, relative standard deviation.

Table S5: Recoveries and RSD of PAHs (5000 µg / L) when spiked to selected food samples using 30:70 acetic acid and acetonitrile extraction solvent

PAHs	% Recovery					
	50 µg L^{-1}		200 µg L^{-1}		400 µg L^{-1}	
	Chapati	Keropok Lekor	Chapati	Keropok Lekor	Chapati	Keropok Lekor
FLU	49.5 ± 0.5	80.9 ± 1.2	57.9 ± 0.4	109.3 ± 0.8	65.7 ± 0.8	90.4 ± 0.9
PHE	47.3 ± 0.4	84.6 ± 1.0	56.9 ± 0.6	95.7 ± 1.1	70.7 ± 0.7	110.5 ± 0.6
ANT	59.2 ± 0.25	100.2 ±1.3	66.3 ± 0.3	119.6 ± 1.0	87.5 ± 0.3	111.8 ±0.7
FLT	93.4 ± 0.58	89.3 ± 0.7	83.8 ± 0.5	113.3 ± 1.0	103.0 ± 0.6	102.9 ± 0.4
PYR	87.0 ± 0.96	99.3 ± 0.9	95.3 ± 0.5	116.1 ± 0.5	111.6 ± 0.9	85.8 ± 0.7
CHR	61.9 ± 0.7	87.2 ± 0.3	79.2 ± 0.1	119.4 ± 0.7	89.7 ± 0.7	107.9 ± 0.2
BaA	104.7 ± 0.6	115.9 ± 0.7	114.2 ± 0.3	116.0 ± 0.3	119.7 ± 0.8	104.8 ± 1.0
BbF	73.3 ± 0.5	101.3 ± 1.2	114.2 ± 0.8	101.6 ±0.2	116.2 ± 0.5	96.7 ± 0.4
BkF	110.5 ± 0.8	99.6 ± 0.8	114.9 ± 0.4	106.2 ± 0.3	115.3 ± 0.6	86.7 ± 0.5
BaP	69.6 ± 1.0	116.6 ± 0.3	84.6 ± 0.1	98.7 ± 0.5	86.0 ± 0.9	78.3 ± 0.7
Ghi	114.8 ± 0.4	108.5 ± 0.7	119.7 ± 0.5	77.3 ± 0.8	107.7 ± 1.0	85.2 ± 0.8

All results reported in $\bar{X} \pm SD$

Table S6. Comparison between slopes of the developed microwave method with and without matrix effects by linear regression lines

Method	Sample	Concentration range (mg L^{-1})	Regression equation of each PAH	R^2	LOD (mg L^{-1})	LOQ (mg L^{-1})	Matrix effect (%)
Without matrix	-	5 – 80	y = 86478x + 186310 (FLR)	0.9764	0.5126	1.5533	-
			y = 48935x + 61678 (PHE)	0.9786	0.4880	1.4790	-
			y = 0.20 y = 362022x - 132927 (ANT)	0.9924	0.2893	0.8768	-
			y = 8512.2x – 7013.1 (FLT)	0.9963	0.2833	0.8585	-
			y = 57761x + 45872 (PYR)	0.9958	0.3640	1.1030	-
			y = 27152x - 64306 (CHR)	0.9980	0.1493	0.4527	-
			y = 374719x + 415886 (B[a]A)	0.9925	0.2859	0.8665	-
			y = 13775x - 16546 (B[b]F)	0.9961	0.2064	0.6257	-
			y = 130905x - 91267 (B[k]F)	0.9961	0.2067	0.6264	-
			y = 106025x - 28987 (B[a]P)	0.9975	0.1662	0.5038	-
			y = 32510x - 12084 (B[ghi]P)	0.9970	0.1808	0.5480	-
With matrix	Chapati	5 – 80	y = 35985x + 45014 (FLR)	0.9841	0.4191	1.2700	-58.39
			y = 22062x + 4409.4 (PHE)	0.9761	0.5164	1.5649	-54.92
			y = 0.20 y = 181558x + 162794 (ANT)	0.9679	0.6010	1.8212	-49.85
			y = 9838.7x – 14320 (FLT)	0.9975	0.1658	0.5024	15.58
			y = 56788x + 103031 (PYR)	0.9943	0.2500	0.7577	1.68
			y = 15581x - 57197 (CHR)	0.9987	0.1202	0.3643	-42.62
			y = 424549x - 768308 (B[a]A)	0.9911	0.3119	0.9452	13.29
			y = 9699.7x – 6290.3 (B[b]F)	0.9856	0.3987	1.2082	-29.58
			y = 133466x + 138210 (B[k]F)	0.9677	0.6033	1.8283	1.95
			y = 74297x - 164049 (B[a]P)	0.9980	0.1465	0.4440	-29.93
			y = 35606x - 70824 (B[ghi]P)	0.9986	0.3664	1.1104	9.52
With matrix	Keropok lekor	5 – 80	y = 89997x + 216395 (FLR)	0.9975	0.5010	1.5181	4.06
			y = 65280x - 31335 (PHE)	0.9823	0.4434	1.3438	33.40
			y = 0.20 y = 431559x - 365265 (ANT)	0.9996	0.0676	0.2049	19.20
			y = 9299x – 10469 (FLT)	0.9944	0.2475	0.7501	9.24
			y = 58663x + 96555 (PYR)	0.9887	0.3527	1.0688	1.56
			y = 33858x - 71182 (CHR)	0.9914	0.3067	0.9295	24.70
			y = 330608x - 634396 (B[a]A)	0.9957	0.2164	0.6558	11.77
			y = 14375x - 21463 (B[b]F)	0.9972	0.1735	0.5257	4.35
			y = 132511x + 201298 (B[k]F)	0.9754	0.5235	1.5865	1.22
			y = 113716x - 107985 (B[a]P)	0.9849	0.4086	1.2381	7.25
			y = 34440x + 51027 (B[ghi]P)	0.9729	0.5508	1.6692	5.93

TRP, tryptamine; PEA, phenylethylamine; PUT, putrescine; CAD, cadaverine; HIS, histamine; TYR, tyramine; SPD, spermidine.

Table S7: Concentrations of PAHs found in toasted and fried food samples (n=3)

	Concentration, μg kg^{-1}													
Toasted Food	Light PAHs								Heavy PAHs					
Roti Canai	FLR	PHE	ANT	FLT	PYR	CHR	BaA	Sub-total	BbF	BkF	BaP	Ghi	Sub-total	Total
1	N.D.	N.D.	2.62 ± 0.1	35.9 ± 0.2	N.D.	N.D.	N.D.	38.5 ± 0.3	N.D.	N.D.	N.D.	N.D.	0	38.5 ± 0.3
2	N.D.	N.D.	10.2 ± 0.2	58.1 ± 0.4	N.D.	N.D.	N.D.	68.3 ± 0.6	N.D.	N.D.	N.D.	N.D.	0	68.3 ± 0.6
3	N.D.	N.D.	N.D.	434.5 ± 0.1	N.D.	N.D.	N.D.	434.5 ± 0.1	N.D.	156.8 ± 2.4	N.D.	N.D.	156.8 ± 2.4	591.3 ± 2.5
$\bar{x}$	0	0	4.3 ± 0.1	176.2 ± 0.2	0	0	0	180.5 ± 0.3	0	52.3 ± 0.8	0	0	52.3 ± 0.8	232.7 ± 1.1
Chapati														
1	143.3 ± 0.9	N.D.	250.0 ± 0.6	N.D.	N.D.	N.D.	35.5 ± 0.4	428.8 ± 1.9	N.D.	N.D.	N.D.	N.D.	0	428.8 ± 1.9
2	N.D.	N.D.	5.1 ± 0.7	96.2 ± 0.4	N.D.	N.D.	N.D.	101.3 ± 1.1	N.D.	N.D.	N.D.	N.D.	0	101.3 ± 1.1
3	48.4 ± 0.3	89.3 ± 0.8	N.D.	141.3 ± 1.2	N.D.	N.D.	N.D.	279.0 ± 2.3	N.D.	N.D.	N.D.	N.D.	0	279.1 ± 2.3
$\bar{x}$	159.4 ± 0.4	29.8 ± 0.3	85.0 ± 0.4	79.2 ± 0.5	0	0	11.8 ± 0.1	365.2 ± 1.7	0	0	0	0	0	365.2 ± 1.7
Thosai														
1	1.4 ± 0.6	6.1 ± 0.8	N.D.	N.D.	N.D.	N.D.	N.D.	7.5 ± 1.4	N.D.	N.D.	N.D.	28.2 ± 0.4	28.2 ± 0.4	35.7 ± 1.8
2	N.D.	3.7 ± 1.9	N.D.	200.3 ± 1.3	N.D.	N.D.	367.2 ± 1.4	571.2 ± 4.6	N.D.	N.D.	N.D.	84.0 ± 2.4	84.0 ± 2.4	655.2 ± 7.0
3	94.1 ± 0.1	N.D.	N.D.	61.0 ± 0.2	N.D.	N.D.	N.D.	155.1 ± 0.3	N.D.	20.2 ± 0.1	N.D.	12.0 ± 0.4	32.2 ± 0.5	187.3 ± 0.8
$\bar{x}$	31.8 ± 0.2	3.3 ± 0.9	0	87.1 ± 0.5	0	0	122.4 ± 0.5	244.6 ± 2.1	0	6.7 ± 0.0	0	41.5 ± 1.1	48.2 ± 1.1	292.8 ± 3.2
Kuih Tayap														
1	13.4 ± 0.3	N.D.	N.D.	75.8 ± 3.3	N.D.	N.D.	N.D.	89.2 ± 3.6	N.D.	N.D.	5.8 ± 0.1	N.D.	5.8 ± 0.1	95.2 ± 3.6
2	106.1 ± 1.2	N.D.	308.3 ± 3.2	37.0 ± 0.6	N.D.	N.D.	N.D.	451.4 ± 5.0	N.D.	N.D.	N.D.	N.D.	0	451.4 ± 5.0
3	27.3 ± 0.4	N.D.	43.0 ± 1.3	44.4 ± 0.2	N.D.	N.D.	N.D.	114.7 ± 1.9	N.D.	N.D.	N.D.	N.D.	0	114.7 ± 1.9
$\bar{x}$	48.9 ± 0.6	N.D.	117.1 ± 1.5	52.4 ± 1.4	0	0	0	218.4 ± 3.5	0	0	1.9 ± 0.0	0	1.9 ± 0.0	220.4 ± 3.5
Apam Balik														
1	27.1 ± 1.5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	27.1 ± 1.5	N.D.	N.D.	N.D.	N.D.	0	27.1 ± 1.5
2	107.6 ± 2.1	N.D.	245.1 ± 0.4	N.D.	N.D.	N.D.	N.D.	352.7 ± 2.5	N.D.	N.D.	N.D.	N.D.	0	352.7 ± 2.5
3	143.9 ± 0.8	N.D.	215.0 ± 0.6	N.D.	N.D.	N.D.	N.D.	358.9 ± 1.4	N.D.	N.D.	N.D.	N.D.	0	358.9 ± 1.4
$\bar{x}$	92.9 ± 1.5	N.D.	153.4 ± 0.3	N.D.	N.D.	N.D.	N.D.	246.3 ± 1.8	N.D.	N.D.	N.D.	N.D.	0	246.3 ± 1.8
Mean total	333 ± 2.7	33.1 ± 1.2	359.8 ± 2.3	394.9 ± 2.3	0	0	134.2 ± 0.6	1255.0 ± 9.1	0	59.0 ± 0.8	1.9 ± 0.0	41.5 ± 1.7	102.4 ± 2.5	1357.4 ± 11.6
Mean	66.6 ± 0.5	6.6 ± 0.2	71.9 ± 0.5	78.9 ± 0.5	0	0	26.8 ± 0.1	251.0 ± 1.8	0	11.8 ± 0.2	0.4 ± 0.0	8.3 ± 0.3	20.5 ± 0.5	542.9 ± 2.3
Fried food	Light PAHs								Heavy PAHs					
Youtiao														
1	N.D.	2.9 ± 0.1	N.D.	123.6 ± 0.5	N.D.	N.D.	N.D.	126.5 ± 0.6	N.D.	N.D.	N.D.	N.D.	0	126.5 ± 0.6
2	691.4 ± 2.2	1.6 ± 0.3	N.D.	211.6 ± 0.3	273.7 ± 0.2	N.D.	35.5 ± 0.2	1178.3 ± 3.2	N.D.	1305.1± 1.2	N.D.	506.1 ± 0.3	1811.2 ± 1.5	2989.5 ± 4.7
3	245.6 ± 1.0	N.D.	N.D.	N.D.	8.4 ± 0.1	N.D.	N.D.	254.0 ± 1.1	N.D.	N.D.	5.8 ± 0.5	N.D.	N.D.	254.0 ± 1.1
$\bar{x}$	315.2 ± 1.1	1.5 ± 0.1	0	111.7 ± 0.3	91.2 ± 0.1	0	11.8 ± 0.1	531.4 ± 1.7	0	435.0 ± 0.1	1.9 ± 0.2	168.7 ± 0.1	605.6 ± 0.4	1137.0± 2.1
Keropok Lekor														
1	404.8 ± 2.1	N.D.	N.D.	1032.2 ± 1.6	N.D.	N.D.	N.D.	1437.0 ± 3.7	N.D.	N.D.	25.8 ± 1.1	N.D.	25.8 ± 1.1	1462.9 ± 4.8
2	N.D.	N.D.	19.2 ± 1.1	298.1 ± 1.2	N.D.	N.D.	N.D.	317.3 ± 2.3	N.D.	N.D.	N.D.	N.D.	0	317.3 ± 2.3
3	N.D.	N.D.	213.3 ± 3.4	303.7 ± 0.7	N.D.	N.D.	N.D.	517.0 ± 4.1	N.D.	N.D.	N.D.	N.D.	0	517.0 ± 4.1

$\bar{x}$	134.9 ± 0.7	0	77.5 ± 1.5	544.7 ± 1.2	0	0	0	757.1 ± 3.4	0	0	8.6 ± 0.4	0	8.6 ± 0.4	765.7 ± 3.7
Pisang Goreng														
1	N.D.	N.D.	N.D.	146.3 ± 3.1	681.5 ± 0.5	N.D.	N.D.	827.8 ± 3.6	N.D.	93.8 ± 0.9	N.D.	N.D.	93.8 ± 0.9	921.7 ± 4.5
2	N.D.	N.D.	116.7 ± 0.5	214.8 ± 1.3	N.D.	N.D.	N.D.	331.5 ± 1.8	N.D.	N.D.	N.D.	N.D.	0	331.5 ± 1.8
3	N.D.	N.D.	36.7 ± 0.8	140.7 ± 0.9	N.D.	N.D.	N.D.	177.4 ± 1.7	N.D.	N.D.	N.D.	N.D.	0	177.4 ± 1.7
$\bar{x}$	0	0	51.1 ± 0.4	167.3 ± 1.8	227.2 ± 0.2	0	0	445.6 ± 2.4	0	31.3 ± 0.3	0	0	31.3 ± 0.3	476.9 ± 2.7
Cekodok														
1	103.9 ± 0.6	N.D.	N.D.	N.D.	235.9 ± 1.3	N.D.	N.D.	339.8 ± 1.9	28.9± 0.1	N.D.	N.D.	N.D.	28.9 ± 0.1	386.7 ± 1.9
2	N.D.	N.D.	31.7 ± 0.3	111.1 ± 2.4	N.D.	N.D.	N.D.	142.8 ± 2.7	N.D.	N.D.	N.D.	N.D.	0	142.8 ± 2.7
3	N.D.	N.D.	40.0 ± 1.2	42.6 ± 0.8	627.5 ± 3.6	N.D.	N.D.	710.1 ± 5.6	N.D.	N.D.	N.D.	N.D.	0	710.1 ± 5.6
$\bar{x}$	34.6 ± 0.2	0	23.9 ± 0.5	125.3 ± 1.1	287.8 ± 1.6	0	0	471.1 ± 3.4	9.6 ± 0.0	0	0	0	9.6 ± 0.0	481.2 ± 3.4
Fried Chicken														
1	69.3 ± 1.7	1.8 ± 0.3	13.1 ± 0.9	9.3 ± 0.5	39.1 ± 0.2	N.D.	N.D.	132.6 ± 3.6	N.D.	N.D.	N.D.	N.D.	0	132.6 ± 3.6
2	32.0 ± 0.3	N.D.	4.5 ± 0.4	N.D.	N.D.	N.D.	N.D.	36.5 ± 0.7	N.D.	N.D.	N.D.	N.D.	0	36.5 ± 0.7
3	N.D.	24.3 ± 0.1	N.D.	N.D.	N.D.	N.D.	N.D.	24.3 ± 0.1	N.D.	N.D.	N.D.	N.D.	0	24.3 ± 0.1
$\bar{x}$	33.8 ± 0.7	8.7 ± 0.1	5.9 ± 0.4	3.1 ± 0.2	13.0 ± 0.1	0	0	64.5 ± 1.5	0	0	0	0	0	64.5 ± 1.5
Mean total	518.5 ± 2.7	10.2 ± 0.2	158.4 ± 2.8	952.1 ± 4.6	619.2 ± 2.0	0	11.8 ± 0.1	2270.2 ± 10.4	9.6 ± 0.0	466.3 ± 0.4	10.5 ± 0.6	168.7 ± 0.1	655.1 ± 1.1	2925.3 ± 13.2
Mean	103.7 ± 0.5	2.0 ± 0.0	31.7 ± 0.6	190.4 ± 0.9	123.8 ± 0.4	0	2.4 ± 0.0	454.0 ± 2.1	1.9 ± 0.0	93.3 ± 0.1	2.1 ± 0.1	33.7 ± 0.0	131.0 ± 0.2	1039.1 ± 2.6

Mean total light PAHs (toasted + fried) = 3525.2 ± 19.5

Mean total heavy PAHs (toasted + fried) = 757.5 ± 3.6

t-test results (Chapati)

data	with Matrix	without M
conc	FLR1	FLR2
5	139986.7	373297.8
10	320785.0	833207.7
20	822481.0	2030817.2
40	1704191.6	4314409.2
80	2815305.7	6783869.1

calculation	FLR1	FLR2
slope =	35985.0198	86477.7348
n =	5	5
SE(reg) =	160934.1920	473031.8017
SE(slope) =	2638.6200	7755.6619
difference =		50492.7151
SE(difference) =		8192.2285
t-stat =		6.1635
df =		6
p =		0.0008

since p > 0.05, thus there is no sig dif bwt the two slopes. If p < 0.05, then there is sig dif bwt the two slopes.

without matrix - use this area

CONC	FLR	PHE	ANT	FLT	PYR	CHR	BaA	B[b]F	B[k]F	B[a]P	B[ghi]P
5	373297.8	204168.9	1485790.9	32262.8	249826.2	64405.8	2516910.1	50610.6	529849.5	491570.8	149037.7
10	833207.7	495043.6	3420772.4	86151.0	631780.7	199707.3	3711349.6	130517.9	1198838.9	1020962.3	317464.5
20	2030817.2	975107.6	6324276.9	143292.9	1169144.8	452896.5	7068826.1	225236.2	2309276.8	1935606.6	577622.4
40	4314409.2	2406542.2	15998124.8	355464.7	2548757.1	1086851.5	17030898.5	571979.0	5567075.2	4481872.5	1373949.2
80	6783869.1	3812437.0	28219885.5	667149.5	4582731.3	2083118.4	29832893.4	1074093.2	10228924.9	8358986.4	2560556.6

data	with Matrix	without M
conc	PHE1	PHE2
5	78605.0	204168.9
10	210393.5	495043.6
20	385167.5	975107.6
40	1070911.3	2406542.2
80	1696534.5	3812437.0

calculation	PHE1	PHE2
slope =	22061.7087	48934.8931
n =	5	5
SE(reg) =	121580.5649	254868.5818
SE(slope) =	1993.3919	4178.7350
difference =		26873.1844
SE(difference) =		4629.8421
t-stat =		5.8043
df =		6
p =		0.0011

with matrix (Chapati) area

CONC	FLR	PHE	ANT	FLT	PYR	CHR	BaA	B[b]F	B[k]F	B[a]P	B[ghi]P
5	139986.7	78605.0	705750.7	37908.8	243580.6	31236.8	2554663.7	34162.1	574886.7	243327.6	139311.7
10	320785.0	210393.5	1761697.8	95196.9	742342.3	114831.7	3395884.9	86794.4	1336705.4	599304.8	310718.1
20	822481.0	385167.5	3320245.4	182698.4	1210064.9	228712.8	5761039.3	161269.1	2385482.9	1171042.0	571268.5
40	1704191.6	1070911.3	9198921.8	353687.4	2561500.9	556467.9	17047929.4	443283.8	6780697.6	2931144.6	1353638.3
80	2815305.7	1696534.5	13968843.3	783900.6	4559817.6	1197793.1	33204010.3	746494.8	10300527.4	5750982.7	2789830.0

data	with Matrix	without M
conc	ANT1	ANT2
5	705750.7	1485790.9
10	1761697.8	3420772.4
20	3320245.4	6324276.9
40	9198921.8	15998124.8
80	13968843.3	28219885.5

calculation	ANT1	ANT2
slope =	181557.9964	362022.4960
n =	5	5
SE(reg) =	1164362.2655	1117795.2605
SE(slope) =	19090.4714	18326.9753
difference =		180464.4996
SE(difference) =		26463.6377
t-stat =		6.8193
df =		6
p =		0.0005

Figure S1: The toasted and fried foods analyzed in this study