

1 **Supplementary Information**

2 **Current used Organophosphate Flame Retardants in settled dust of Masjids and**
3 **Hotels of Saudi Arabia, a new insight of human health implication via dust exposure**

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21 **Consist of three tables and 1 figure.**

22 **Table S1**, Details of the dust samples collected from mosques.

Sample ID	Date	Area (district)	Age	Carpeted (old or new)	Number of main entrance door	Capacity <200	Capacity >200	AC type (window/ split)	No. of ACs	Bakhoor
M-01	7/02/2017	Alsulimaniah	13	Old	1	X		Window	4	
M-02	7/2/2017	Alsulimaniah	20	Old	2		x	Split	10	x
M-03	7/2/2017	Al -faheya	16	Old	2		x	Split	15	X
M-04	9/2/2017	Al -raya	5	New	3		x	Split	12	X
M-05	11/2/2017	Alsulimaniah	4	New	1	X		Centralized		X
M-06	11/2/2017	Quizah	21	Old	3		x	Split	14	X
M-07	12/2/2017	Quizah	5	New	5		x	Centralized		X
M-08	11/2/2017	Al -raya	12	Old	1	x		Window	4	
M-09	13/02/2017	Al -nasim	13	Old	3		x	Centralized		X
M-10	14/02/2017	Al -mosaid	14	Old	1	x		Window	6	
M-11	14/02/2017	Alsulimaniah	12	Old	1	x		Window	4	
M-12	14/02/2017	Al -faheya	5	New	2	x		Centralized		
M-13	14/02/2017	Al jamah	12	Old	1	x		Split	5	
M-14	15/02/2017	KAU	8	New	2	x		Split	6	
M-15	20/2/2017	Al safa	28	Old	3	x		Split	14	x
M-16	20/02/2017	Al aziziah	14	Old	1		x	Split	11	x
M-17	20/02/2017	Al -faisliah	12	Old	2		x	Split	12	x
M-18	20/02/2017	Al-nasim	15	Old	2		x	Split	12	x
M-19	5/3/2017	Al -mosaid	22	Old	2		x	Split	13	x
M-20	5/3/2017	Al -jamiah	26	Old	3		x	Split	15	x
M-21	11/5/2017	Al -maroah	23	Old	3		x	Split	8	x
M-22	11/5/2017	Quizah	12	Old	2		x	Centralized		x
M-23	14/05/2017	Al -sulimaniah	18	Old	4		x	Split	10	x
M-24	14/05/2017	Al -zahra	6	New	3		x	Centralized		x
M-25	14/05/2017	Mishrefa	23	Old	3		x	Split	10	x
M-26	15/05/2017	Al -faissliah	5	New	1	x		Centralized		x
M-27	15/05/2017	Al -soarik	19	Old	4		x	Split	10	x
M-28	16/05/2017	Al -ruabi	17	Old	2		x	Split	6	x
M-29	16/05/2017	Al -komra	20	Old	3		x	Split	9	x
M-30	16/05/2017	Al -ruabi	16	Old	1	x		Window	4	x

24 **Table S2**, Results of two sample t-test to study the difference of PFRs between hotel and Masjid, new
 25 and old Masjid, small and large Masjid, and centralized and split/window air conditioning Masjids.

Masjid characteristics	Statistics	TCEP	TCP	TDCPP	TPhP
Split/Window (N=23)	Mean	661	2540	3127	1986
	STD	699	883	1486	1406
Centralized (N=7)	Mean	388	1979	2534	1800
	STD	129	469	1223	1434
	P	0.318	0.102	0.346	0.762
New (N=7)	Mean	829	2387	3120	1800
	STD	1169	959	2045	1330
Old (N=23)	Mean	528	2432	2904	1914
	STD	350	830	1257	1423
	P	0.273	0.904	0.734	0.852
Large (N=20)	Mean	505	2322	2550	1538
	STD	383	886	1078	1172
Small (N=10)	Mean	782	2611	3727	2548
	STD	949	770	1780	1556
	P	0.261	0.387	0.0317	0.056

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31 **Table S3** Comparison of PFR concentrations in SRM 2585 (ng/g) observed from different studies.

PFRs	This study (n = 3)	Bergh et al., 2012 (n=5)	Brandsma et al., 2014 (n=3)	Van den Eede et al., 2012 (n=5)	Fromme et al., 2014
TCEP	1200	840	810	700	700
TCPP	1100	880	750	820	1000
TDCPP	2600	2300	2500	2020	2200
TPhP	1150	1100	890	990	700

32 Bergh C, Torgrip R, Emenius G, Ostman C. Organophosphate and phthalate esters in air and settled dust
33 - a multi-location indoor study. *Indoor Air*. 2011; 21(1):67–76.

34 Brandsma SH, de Boer J, van Velzen MJ, Leonards PE. Organophosphorus flame retardants (PFRs) and
35 plasticizers in house and car dust and the influence of electronic equipment. *Chemosphere*. 2014;
36 116:3–9.

37 Fromme H, Lahrz T, Kraft M et al. Organophosphate flame retardants and plasticizers in the air and dust
38 in German daycare centers and human biomonitoring in visiting children (LUPE 3). *Environ Int*.
39 2014; 71:158–163.

40 Van den Eede, N., et al. Analytical developments and preliminary assessment of human exposure to
41 organophosphate flame retardants from indoor dust. *Environ Int*. 2011; 37(2): 454–461.

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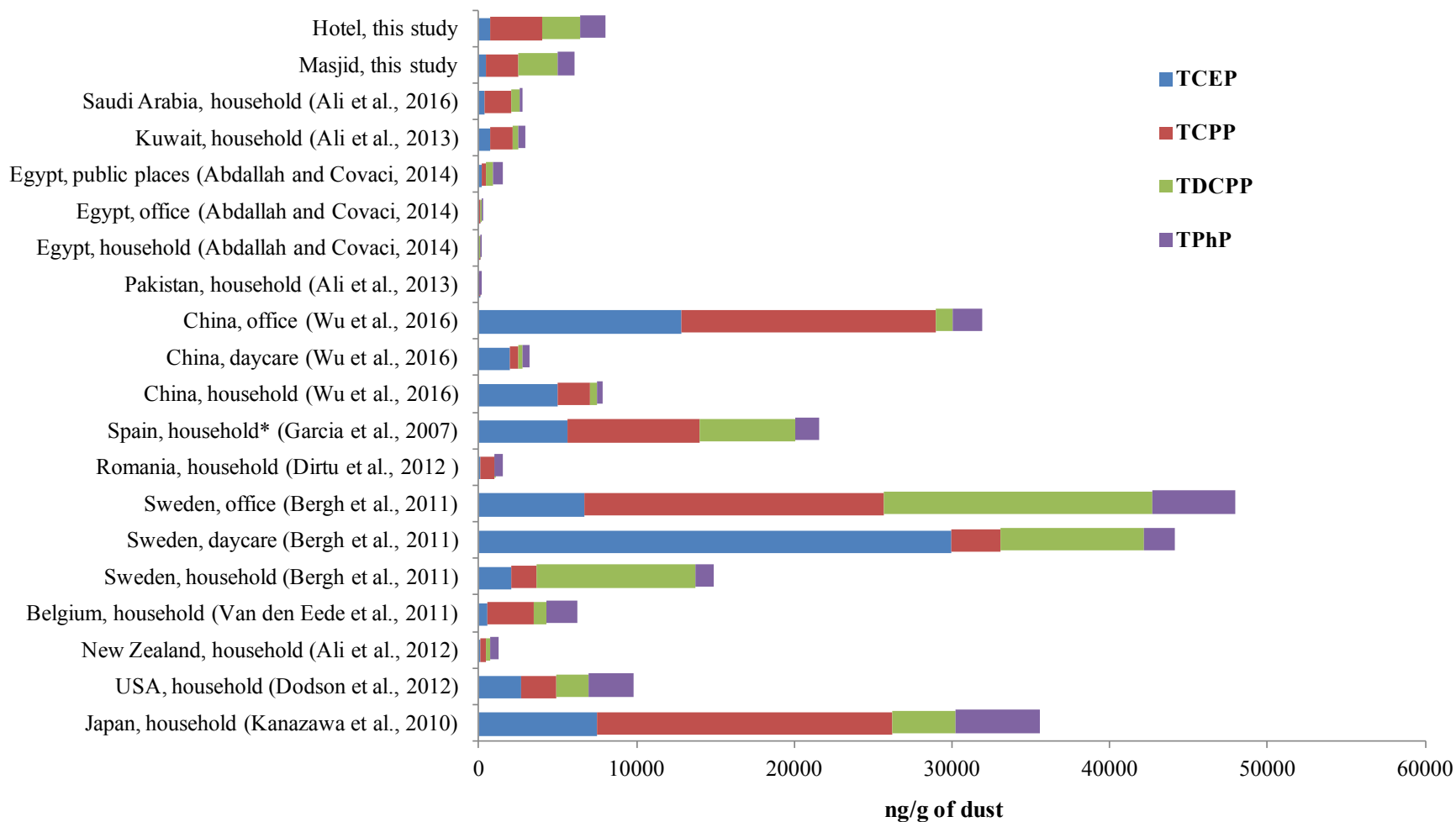


Figure S1, Levels and profile of selected PFRs in indoor dust of different countries and different indoor microenvironments. All selected values are median (ng/g) except for mean values from Garcia et al., 2007.