

Supplemental Tables

Table 3. Geometric Mean & SD of PFAS across participant demographic & housing characteristics.

Ultrashort-chain (C2-C3)			Short-chain (C4-C7)					Long-chain (C6-C16)									
Demographic and Housing characteristics	TFA	PFPrA	PFBA	PFBS	PFPeS	PFHxA	PFHpA	PFHxS	PFHpS	PFOA	PFOS	PFECHS	PFNA	PFDA	PFUdA	PFHxDA	
	N	Geometric Mean (Geometric SD)	Geometric Mean (Geometric SD)					Geometric Mean (Geometric SD)									
Marital Status																	
Single	48	5.5 (2.2)	0.93 (1.7)	0.18 (1.9)	0.03 (5.0)	0.0041 (4.0)	0.02 (4.3)	0.009 (3.8)	0.83 (2.5)	0.08 (3.1)	0.70 (2.4)	1.5 (2.2)	0.01 (3.8)	0.21 (1.9)	0.04 (3.0)	0.03 (3.5)	0.011 (5.4)
Married	33	6.2 (1.9)	0.98 (1.8)	0.19 (2.3)	0.04 (6.4)	0.0025 (4.4)	0.02 (4.0)	0.013 (4.3)	0.69 (3.3)	0.07 (4.0)	0.55 (3.5)	1.5 (5.1)	0.01 (2.9)	0.16 (4.0)	0.05 (2.8)	0.03 (3.6)	0.015 (6.5)
Education																	
Highschool or less	31	6.1 (2.1)	1.0 (1.9)	0.18 (1.8)	0.03 (6.0)	0.003 (4.0)	0.02 (3.7)	0.01 (3.3)	0.91 (2.9)	0.07 (4.1)	0.66 (2.4)	1.8 (2.8)	0.01 (3.3)	0.21 (1.9)	0.04 (2.8)	0.02 (3.2)	0.01 (5.0)
Some college	28	5.5 (2.4)	0.81 (1.6)	0.15 (1.9)	0.03 (4.6)	0.003 (4.3)	0.02 (5.1)	0.01 (4.4)	0.57 (2.2)	0.07 (2.9)	0.57 (2.3)	1.3 (2.0)	0.01 (3.6)	0.16 (3.1)	0.03 (3.2)	0.02 (3.7)	0.01 (7.4)
College or higher	22	5.7 (1.9)	1.1 (1.6)	0.24 (2.5)	0.06 (5.9)	0.004 (4.4)	0.02 (3.8)	0.01 (4.7)	0.88 (3.4)	0.10 (3.3)	0.68 (4.2)	1.5 (5.8)	0.01 (3.2)	0.21 (3.5)	0.06 (2.5)	0.03 (3.7)	0.02 (5.4)
Race																	
White	65	5.6 (2.2)	0.90 (1.7)	0.17 (2.0)	0.03 (5.2)	0.003 (4.3)	0.02 (4.6)	0.01 (4.2)	0.80 (3.0)	0.08 (3.6)	0.64 (3.0)	1.6 (3.6)	0.01 (3.5)	0.19 (3.0)	0.04 (3.1)	0.02 (3.5)	0.01 (6.4)
Non-White	16	6.3 (1.9)	1.2 (1.5)	0.25 (2.0)	0.04 (7.0)	0.004 (3.8)	0.03 (2.7)	0.02 (3.3)	0.64 (2.2)	0.07 (2.7)	0.60 (2.2)	1.4 (2.0)	0.02 (2.0)	0.22 (1.7)	0.06 (1.9)	0.05 (2.8)	0.04 (1.5)
Gender																	
Male	29	5.6 (1.8)	1.1 (1.7)	0.20 (2.1)	0.06 (4.2)	0.01 (4.4)	0.02 (4.5)	0.01 (4.5)	1.1 (3.2)	0.12 (3.3)	0.72 (3.9)	1.6 (5.3)	0.01 (3.5)	0.19 (3.1)	0.04 (3.2)	0.02 (3.6)	0.01 (6.0)
Female	52	5.8 (2.3)	0.88 (1.7)	0.17 (2.0)	0.03 (5.9)	0.003 (3.9)	0.02 (4.1)	0.01 (3.8)	0.64 (2.5)	0.06 (3.3)	0.59 (2.3)	1.5 (2.2)	0.01 (3.3)	0.19 (2.6)	0.04 (2.8)	0.03 (3.5)	0.02 (5.6)
Age																	
38 years or younger	27	4.3 (1.8)	0.82 (1.8)	0.14 (1.9)	0.02 (6.7)	0.004 (4.2)	0.01 (5.0)	0.01 (3.9)	0.53 (2.4)	0.05 (2.9)	0.45 (2.0)	1.1 (1.7)	0.01 (4.3)	0.15 (1.6)	0.03 (3.0)	0.02 (3.5)	0.01 (6.0)
39 – 60 years old	28	7.3 (2.6)	0.86 (1.6)	0.18 (2.1)	0.04 (5.1)	0.003 (4.2)	0.02 (3.8)	0.01 (4.2)	0.59 (3.1)	0.06 (4.3)	0.56 (3.8)	1.3 (5.5)	0.01 (3.3)	0.16 (4.5)	0.04 (3.0)	0.02 (3.6)	0.01 (7.1)
61 or older	26	6.0 (1.8)	1.2 (1.6)	0.25 (2.0)	0.06 (4.3)	0.005 (4.1)	0.03 (3.6)	0.02 (3.5)	1.5 (2.1)	0.16 (2.0)	1.0 (2.3)	2.6 (2.1)	0.02 (2.3)	0.30 (1.7)	0.06 (2.6)	0.04 (3.0)	0.01 (4.6)
BMI																	
Normal Weight (≤ 24.9)	27	5.4 (2.2)	0.88 (1.7)	0.18 (1.7)	0.03 (5.5)	0.002 (4.7)	0.02 (4.0)	0.01 (3.7)	0.77 (2.8)	0.06 (3.6)	0.53 (2.3)	1.4 (2.5)	0.01 (2.8)	0.16 (3.1)	0.03 (2.6)	0.03 (3.1)	0.01 (5.2)
Overweight (25-29.9)	13	5.0 (1.9)	0.85 (1.9)	0.14 (2.1)	0.04 (3.7)	0.004 (4.9)	0.01 (5.3)	0.01 (4.9)	0.68 (2.6)	0.06 (4.2)	0.65 (2.1)	1.3 (1.8)	0.01 (4.9)	0.17 (1.6)	0.02 (4.2)	0.02 (3.2)	0.01 (5.4)
Obese (30+)	41	6.3 (2.2)	1.0 (1.6)	0.20 (2.2)	0.04 (6.2)	0.004 (3.5)	0.02 (3.9)	0.01 (4.0)	0.80 (2.9)	0.09 (3.1)	0.71 (3.4)	1.7 (4.3)	0.01 (3.3)	0.22 (2.8)	0.06 (2.4)	0.03 (3.8)	0.02 (5.8)
Smoking status																	
No	54	6.0 (2.1)	1.0 (1.8)	0.19 (2.1)	0.04 (4.9)	0.003 (4.4)	0.02 (4.2)	0.01 (3.9)	0.87 (3.1)	0.08 (3.5)	0.66 (3.1)	1.5 (3.8)	0.01 (3.3)	0.21 (2.5)	0.04 (2.9)	0.03 (3.4)	0.01 (5.6)
Yes	27	5.3 (2.1)	0.86 (1.6)	0.18 (2.0)	0.03 (6.7)	0.003 (3.9)	0.02 (4.2)	0.01 (4.0)	0.61 (2.1)	0.07 (3.4)	0.59 (2.3)	1.6 (2.3)	0.01 (3.6)	0.16 (3.2)	0.04 (3.0)	0.02 (3.8)	0.01 (6.3)
People living in home																	
1-2 people	38	6.0 (2.2)	1.1 (1.6)	0.19 (1.9)	0.06 (3.5)	0.004 (4.6)	0.02 (3.7)	0.01 (3.8)	1.0 (2.3)	0.11 (3.1)	0.89 (2.2)	2.2 (2.7)	0.02 (2.8)	0.25 (1.8)	0.05 (2.8)	0.03 (3.2)	0.01 (5.7)
3-4 people	27	5.5 (2.2)	0.77 (1.6)	0.15 (1.9)	0.02 (7.3)	0.003 (4.0)	0.02 (4.7)	0.01 (4.4)	0.59 (3.5)	0.05 (4.1)	0.46 (3.8)	0.95 (4.5)	0.01 (3.9)	0.13 (4.5)	0.03 (3.2)	0.02 (3.7)	0.01 (6.0)
5-6 people	16	5.5 (1.7)	0.95 (1.9)	0.23 (2.6)	0.04 (5.6)	0.003 (3.4)	0.02 (4.5)	0.01 (3.7)	0.58 (2.3)	0.07 (2.4)	0.50 (2.2)	1.4 (2.0)	0.01 (3.2)	0.18 (1.5)	0.04 (2.6)	0.02 (3.8)	0.02 (6.1)
Hours away from home																	
≤ 8 hours per day	49	5.7 (2.2)	0.94 (1.6)	0.17 (1.9)	0.03 (6.2)	0.004 (4.2)	0.02 (4.3)	0.01 (3.9)	0.70 (3.0)	0.06 (3.7)	0.56 (3.1)	1.3 (3.6)	0.01 (3.5)	0.19 (2.6)	0.04 (3.3)	0.02 (3.6)	0.01 (5.8)
> 8 hours per day	32	5.9 (2.1)	0.97 (1.9)	0.20 (2.3)	0.05 (4.3)	0.003 (4.2)	0.02 (4.1)	0.01 (4.2)	0.89 (2.5)	0.10 (2.9)	0.76 (2.4)	2.0 (2.6)	0.01 (3.2)	0.20 (3.1)	0.05 (2.4)	0.03 (3.4)	0.01 (5.8)
Home type																	
House	54	5.5 (2.0)	0.97 (1.8)	0.19 (2.2)	0.04 (5.1)	0.003 (4.5)	0.02 (4.4)	0.01 (4.4)	0.81 (3.0)	0.08 (4.0)	0.62 (3.1)	1.6 (3.9)	0.01 (3.5)	0.20 (2.6)	0.04 (3.2)	0.03 (3.6)	0.01 (6.3)
Apartment	18																

Before 1940	11	4.7 (1.9)	0.77 (2.3)	0.17 (2.3)	0.02 (9.8)	0.002 (4.3)	0.02 (5.8)	0.01 (4.9)	0.59 (3.2)	0.05 (4.8)	0.62 (2.3)	1.7 (2.5)	0.01 (4.8)	0.22 (1.8)	0.06 (3.3)	0.03 (4.6)	0.01 (6.5)
Between 1940-1969	20	5.5 (1.9)	0.98 (1.5)	0.19 (2.1)	0.05 (3.3)	0.003 (4.3)	0.01 (4.9)	0.01 (5.2)	0.62 (4.1)	0.06 (4.0)	0.43 (4.2)	1.0 (6.1)	0.01 (3.7)	0.16 (3.7)	0.04 (3.4)	0.03 (3.2)	0.02 (5.3)
Between 1970-1999	25	6.6 (2.6)	0.89 (1.5)	0.19 (2.2)	0.05 (4.0)	0.004 (4.4)	0.02 (3.5)	0.01 (4.0)	0.94 (2.1)	0.10 (2.3)	0.81 (2.2)	2.0 (2.0)	0.01 (3.1)	0.24 (1.8)	0.04 (3.6)	0.03 (3.6)	0.01 (6.5)
2000 or after	10	5.7 (2.1)	1.0 (1.8)	1.19 (2.3)	0.04 (6.3)	0.003 (4.6)	0.02 (3.3)	0.01 (3.5)	1.1 (2.5)	0.06 (5.0)	0.71 (2.6)	1.5 (3.9)	0.01 (3.4)	0.11 (5.4)	0.04 (1.6)	0.02 (3.4)	0.02 (5.7)
Vinyl wallpaper																	
No	62	6.5 (2.1)	1.0 (1.6)	0.20 (2.0)	0.04 (5.5)	0.004 (4.2)	0.03 (3.5)	0.01 (3.7)	0.79 (2.9)	0.08 (3.3)	0.63 (3.0)	1.5 (3.5)	0.01 (3.1)	0.20 (2.3)	0.04 (2.8)	0.03 (3.1)	0.01 (5.5)
Yes	12	4.3 (2.0)	0.88 (2.1)	0.17 (1.8)	0.04 (6.1)	0.005 (3.6)	0.01 (5.0)	0.01 (4.6)	0.86 (2.6)	0.07 (2.8)	0.76 (2.4)	2.2 (3.0)	0.01 (3.9)	0.17 (5.7)	0.06 (2.3)	0.02 (4.8)	0.02 (6.2)
Water source																	
City water	73	5.9 (2.1)	0.98 (1.7)	0.19 (2.1)	0.03 (5.5)	0.003 (4.2)	0.02 (4.2)	0.01 (3.9)	0.73 (2.8)	0.07 (3.5)	0.62 (2.9)	1.4 (3.3)	0.01 (3.4)	0.18 (2.8)	0.04 (3.0)	0.03 (3.5)	0.01 (5.5)
Well water	8	4.4 (2.0)	0.74 (2.1)	0.14 (1.8)	0.04 (5.4)	0.004 (4.5)	0.02 (4.1)	0.01 (6.0)	1.2 (2.5)	0.14 (2.4)	0.84 (1.7)	2.6 (2.5)	0.01 (3.9)	0.29 (2.0)	0.06 (1.8)	0.03 (4.4)	0.01 (9.3)
Vacuum frequency																	
Never/some days	43	5.2 (1.8)	0.95 (1.7)	0.17 (2.0)	0.04 (5.0)	0.003 (4.4)	0.02 (4.6)	0.01 (4.2)	0.78 (3.3)	0.07 (3.6)	0.59 (3.3)	1.5 (4.2)	0.01 (3.6)	0.16 (3.6)	0.04 (3.4)	0.03 (3.3)	0.01 (5.7)
Most days/every day	36	6.3 (2.5)	0.94 (1.8)	0.21 (2.2)	0.03 (6.3)	0.003 (4.1)	0.02 (3.8)	0.01 (3.7)	0.74 (2.3)	0.08 (3.4)	0.69 (2.4)	1.6 (2.3)	0.01 (3.2)	0.23 (1.7)	0.05 (2.4)	0.02 (3.9)	0.01 (5.7)
Floor type																	
Carpet	65	5.9 (2.1)	0.98 (1.7)	0.19 (2.1)	0.04 (5.0)	0.003 (4.3)	0.02 (4.1)	0.01 (4.0)	0.85 (2.9)	0.08 (3.2)	0.67 (2.9)	1.6 (3.5)	0.01 (3.3)	0.21 (2.4)	0.05 (2.8)	0.03 (3.4)	0.01 (5.6)
Others	16	5.3 (2.4)	0.84 (1.8)	0.14 (1.9)	0.03 (7.8)	0.004 (4.1)	0.02 (4.6)	0.01 (4.1)	0.51 (2.2)	0.05 (4.1)	0.50 (2.4)	1.4 (2.2)	0.01 (3.9)	0.12 (4.1)	0.03 (3.5)	0.02 (3.8)	0.01 (6.9)

Table 4. Unadjusted Linear Regression.

Ultrashort-chain (C2–C3)		Short-chain (C4–C7)						Long-chain (C6–C16)														
		TFA	PFPrA	PFBA	PFBS	PFPeS	PFHxA	PFHpA	PFHxS	PFHpS	PFOA	PFOS	PFECHS	PFNA	PFDA	PFUdA	PFHxDA					
		Beta (95% CI)		Beta (95% CI)							Beta (95% CI)											
Marital Status																						
<i>Married (ref)</i>																						
Single	-0.11 (-0.45, 0.22)	-0.06 (-0.30, 0.18)	-0.05 (-0.37, 0.27)	-0.08 (-0.84, 0.67)	0.48 (-0.15, 1.11)	-0.24 (-0.88, 0.40)	-0.33 (-0.95, 0.28)	0.18 (-0.28, 0.63)	0.16 (-0.38, 0.71)	0.23 (-0.23, 0.69)	-0.01 (-0.54, 0.51)	0.05 (-0.50, 0.59)	0.26 (-0.19, 0.71)	-0.15 (-0.62, 0.33)	-0.03 (-0.59, 0.53)	-0.30 (-1.08, 0.48)						
Education																						
<i>Highschool less (ref)</i>																						
Some college	-0.11 (-0.50, 0.28)	-0.22 (-0.49, 0.06)	-0.15 (-0.51, 0.21)	-0.18 (-1.04, 0.69)	-0.35 (-1.09, 0.38)	-0.40 (-1.14, 0.33)	-0.15 (-0.87, 0.56)	-0.46 (-0.98, 0.06)	-0.10 (-0.73, 0.53)	-0.15 (-0.68, 0.39)	-0.27 (-0.88, 0.34)	-0.11 (-0.73, 0.52)	-0.24 (-0.76, 0.28)	-0.18 (-0.72, 0.36)	-0.12 (-0.76, 0.53)	-0.10 (-1.01, 0.80)						
College or higher	-0.06 (-0.48, 0.35)	0.07 (-0.22, 0.36)	0.33 (-0.05, 0.71)	0.57 (-0.36, 1.49)	0.07 (-0.71, 0.86)	-0.01 (-0.79, 0.78)	0.08 (-0.68, 0.85)	-0.03 (-0.59, 0.53)	0.33 (-0.35, 1.0)	0.02 (-0.55, 0.60)	-0.16 (-0.81, 0.49)	0.41 (-0.26, 1.08)	0.01 (-0.54, 0.57)	0.39 (-0.18, 0.97)	0.26 (-0.43, 0.95)	0.21 (-0.76, 1.18)						
Race																						
<i>White (ref)</i>																						
Non-White	0.12 (-0.30, 0.53)	0.26 (-0.03, 0.55)	0.40 (0.02, 0.79)	0.04 (-0.90, 0.97)	0.29 (-0.50, 1.07)	0.39 (-0.39, 1.18)	0.39 (-0.37, 1.15)	-0.23 (-0.79, 0.34)	-0.14 (-0.82, 0.54)	-0.07 (-0.65, 0.50)	-0.13 (-0.78, 0.52)	0.98 (0.35, 1.62)	0.16 (-0.39, 0.72)	0.36 (-0.22, 0.95)	0.83 (0.17, 1.5)	1.34 (0.42, 2.26)						
Gender																						
<i>Female (ref)</i>																						
Male	-0.04 (-0.38, 0.31)	0.21 (-0.03, 0.45)	0.13 (-0.20, 0.46)	0.84 (0.09, 1.60)	0.63 (-0.01, 1.27)	0.24 (-0.42, 0.89)	0.02 (-0.61, 0.65)	0.51 (0.05, 0.97)	0.68 (0.13, 1.22)	0.19 (-0.29, 0.67)	0.04 (-0.50, 0.58)	0.46 (-0.10, 1)	-0.001 (-0.46, 0.46)	-0.07 (-0.56, 0.42)	-0.18 (-0.75, 0.39)	-0.51 (-1.30, 0.29)						
Age																						
<i>38 years or younger (ref)</i>																						
39 – 60 years old	0.52 (0.14, 0.91)	0.04 (-0.23, 0.31)	0.26 (-0.10, 0.63)	0.52 (-0.36, 1.40)	-0.33 (-1.09, 0.42)	0.55 (-0.20, 1.30)	0.24 (-0.47, 0.96)	0.11 (-0.38, 0.60)	0.20 (-0.40, 0.80)	0.21 (-0.31, 0.74)	0.23 (-0.37, 0.83)	0.25 (-0.39, 0.88)	0.01 (-0.51, 0.52)	0.35 (-0.20, 0.91)	0.25 (-0.39, 0.90)	0.12 (-0.82, 1.06)						
61 or older	0.34 (-0.05, 0.73)	0.40 (0.13, 0.68)	0.56 (0.19, 0.93)	1.01 (0.11, 1.91)	0.26 (-0.51, 1.03)	0.71 (-0.05, 1.47)	0.88 (0.15, 1.61)	1.05 (0.55, 1.55)	1.19 (0.58, 1.80)	0.83 (0.30, 1.37)	0.87 (0.26, 1.49)	0.74 (0.09, 1.38)	0.67 (0.14, 1.19)	0.68 (0.12, 1.25)	0.82 (0.16, 1.48)	0.22 (-0.74, 1.17)						
BMI																						
<i>Normal Weight (≤ 24.9) (ref)</i>																						
Overweight (25-29.9)	-0.07 (-0.57, 0.43)	-0.04 (-0.39, 0.32)	-0.25 (-0.72, 0.23)	0.20 (-0.94, 1.34)	0.72 (-0.21, 1.66)	-0.83 (-1.77, 0.11)	-0.10 (-1.02, 0.83)	-0.12 (-0.81, 0.57)	-0.03 (-0.84, 0.79)	0.20 (-0.49, 0.90)	-0.07 (-0.86, 0.72)	-0.07 (-0.88, 0.73)	0.08 (-0.58, 0.75)	-0.43 (-1.09, 0.24)	-0.51 (-1.33, 0.31)	-0.55 (-1.68, 0.59)						
Obese (30+)	0.15 (-0.22, 0.52)	0.17 (-0.09, 0.43)	0.08 (-0.27, 0.43)	0.16 (-0.68, 0.99)	0.69 (0.01, 1.38)	-0.13 (-0.82, 0.56)	0.09 (-0.59, 0.77)	0.04 (-0.47, 0.54)	0.35 (-0.25, 0.95)	0.29 (-0.21, 0.80)	0.14 (-0.44, 0.72)	0.44 (-0.15, 1.03)	0.34 (-0.15, 0.83)	0.62 (0.13, 1.11)	0.20 (-0.40, 0.81)	0.68 (-0.16, 1.51)						
Smoking status																						
<i>No (ref)</i>																						
Yes	-0.12 (-0.47, 0.23)	-0.15 (-0.40, 0.10)	-0.04 (-0.37, 0.30)	-0.29 (-1.08, 0.49)	-0.005 (-0.67, 0.66)	-0.30 (-0.95, 0.37)	-0.49 (-1.12, 0.15)	-0.35 (-0.83, 0.12)	-0.10 (-0.67, 0.48)	-0.12 (-0.61, 0.36)	0.07 (-0.48, 0.62)	-0.28 (-0.85, 0.28)	-0.29 (-0.76, 0.17)	-0.10 (-0.60, 0.40)	-0.29 (-0.87, 0.29)	-0.40 (-1.21, 0.41)						
People living in home																						
<i>5-6 people (ref)</i>																						
1-2 people	0.10 (-0.34, 0.54)	0.15 (-0.16, 0.45)	-0.21 (-0.62, 0.20)	0.49 (-0.46, 1.44)	0.57 (-0.26, 1.41)	0.25 (-0.59, 1.09)	0.38 (-0.43, 1.19)	0.57 (-0.01, 1.16)	0.48 (-0.21, 1.17)	0.57 (-0.01, 1.16)	0.44 (-0.22, 1.10)	0.47 (-0.22, 1.16)	0.33 (-0.24, 0.90)	0.27 (-0.35, 0.89)	0.41 (-0.32, 1.13)	-0.32 (-1.35, 0.71)						
3-4 people	0.01 (-0.46, 0.48)	-0.22 (-0.54, 0.11)	-0.45 (-0.																			

> 8 hours per day (ref)																
≤ 8 hours per day	-0.04 (-0.38, 0.30)	-0.04 (-0.28, 0.20)	-0.18 (-0.50, 0.13)	-0.44 (-1.19, 0.32)	0.21 (-0.43, 0.85)	-0.16 (-0.80, 0.48)	-0.02 (-0.64, 0.60)	-0.24 (-0.70, 0.22)	-0.41 (-0.96, 0.13)	-0.30 (-0.76, 0.16)	-0.41 (-0.93, 0.11)	0.01 (-0.54, 0.56)	-0.07 (-0.52, 0.38)	-0.21 (-0.69, 0.27)	-0.21 (-0.78, 0.35)	0.36 (-0.42, 1.15)
Home Type																
Mobile home or others (ref)																
House	0.26 (-0.26, 0.78)	0.09 (-0.29, 0.47)	0.29 (-0.22, 0.80)	-0.10 (-1.29, 1.10)	-0.40 (-1.42, 0.62)	0.53 (-0.48, 1.53)	0.60 (-0.38, 1.58)	-0.19 (-0.92, 0.53)	0.01 (-0.87, 0.88)	-0.30 (-1.04, 0.44)	-0.16 (-1.0, 0.68)	-0.05 (-0.92, 0.83)	0.40 (-0.31, 1.12)	-0.03 (-0.79, 0.74)	0.51 (-0.38, 1.40)	0.37 (-0.86, 1.60)
Apartment	0.60 (0.01, 1.20)	0.03 (-0.40, 0.46)	0.33 (-0.24, 0.91)	-0.82 (-2.17, 0.54)	-0.18 (-1.34, 0.97)	0.95 (-0.19, 2.09)	0.61 (-0.51, 1.72)	-0.51 (-1.33, 0.32)	-0.21 (1.20, 0.79)	-0.37 (-1.21, 0.47)	-0.41 (-1.37, 0.54)	-0.01 (-1.0, 0.98)	0.41 (-0.40, 1.22)	0.04 (-0.83, 0.91)	0.73 (-0.27, 1.74)	1.05 (-0.35, 2.45)
Resident Year																
Less than 5 years (ref)																
5-10 years	0.11 (-0.30, 0.52)	0.24 (-0.05, 0.53)	0.17 (-0.22, 0.55)	0.38 (-0.54, 1.31)	0.22 (-0.58, 1.02)	0.23 (-0.56, 1.03)	0.41 (-0.35, 1.17)	-0.16 (-0.71, 0.38)	0.31 (-0.35, 0.97)	0.25 (-0.32, 0.82)	0.26 (-0.38, 0.89)	0.66 (-0.0002, 1.32)	0.25 (-0.30, 0.80)	0.21 (-0.37, 0.78)	0.27 (-0.40, 0.93)	0.50 (-0.47, 1.46)
11-20 years	0.02 (-0.53, 0.58)	0.27 (-0.11, 0.66)	0.43 (-0.09, 0.95)	0.71 (-0.54, 1.96)	-0.09 (-1.17, 0.98)	-0.12 (-1.19, 0.95)	-0.12 (-1.14, 0.90)	-0.32 (-1.06, 0.41)	0.12 (-0.77, 1.01)	-0.32 (-1.09, 0.45)	-0.12 (-0.97, 0.74)	0.31 (-0.58, 1.20)	-0.01 (-0.75, 0.73)	0.62 (-0.15, 1.39)	0.69 (-0.20, 1.59)	-0.31 (-1.61, 0.99)
21-30 years	0.29 (-0.36, 0.94)	0.30 (-0.16, 0.76)	0.39 (-0.23, 1)	1.18 (-0.30, 2.65)	0.18 (-1.09, 1.45)	0.54 (-0.73, 1.81)	0.78 (-0.42, 1.99)	0.46 (-0.41, 1.33)	0.79 (-0.27, 1.84)	0.39 (-0.51, 1.30)	0.83 (-0.18, 1.84)	0.66 (-0.39, 1.71)	0.45 (-0.42, 1.33)	0.69 (-0.22, 1.60)	1.05 (-0.01, 2.11)	0.78 (-0.76, 2.31)
31+ years	0.53 (0.02, 1.04)	0.41 (0.06, 0.77)	0.50 (0.02, 0.98)	0.76 (-0.40, 1.92)	0.34 (-0.66, 1.33)	0.08 (-0.91, 1.07)	0.62 (-0.33, 1.56)	0.76 (0.08, 1.44)	0.96 (0.14, 1.78)	0.31 (-0.40, 1.02)	0.78 (-0.02, 1.57)	0.75 (-0.07, 1.57)	0.60 (-0.09, 1.28)	0.79 (0.08, 1.51)	0.99 (0.16, 1.82)	0.50 (-0.70, 1.70)
Residence Built																
2000 or after (ref)																
Before 1940	-0.19 (-0.87, 0.48)	-0.29 (-0.74, 0.16)	-0.09 (-0.76, 0.58)	-0.85 (-2.21, 0.51)	-0.23 (-1.50, 1.04)	-0.48 (-1.72, 0.76)	-0.63 (-1.91, 0.64)	-0.59 (-1.52, 0.33)	-0.01 (-1.11, 1.08)	-0.15 (-1.05, 0.75)	0.14 (-0.94, 1.22)	0.01 (-1.08, 1.10)	0.69 (-0.22, 1.59)	0.44 (-0.56, 1.44)	0.50 (-0.59, 1.60)	-0.90 (-2.44, 0.64)
Between 1940-1969	-0.02 (-0.62, 0.58)	-0.05 (-0.45, 0.35)	-0.001 (-0.59, 0.59)	0.24 (-0.96, 1.44)	0.24 (-0.88, 1.37)	-0.59 (-1.69, 0.51)	-0.26 (-1.39, 0.87)	-0.53 (-1.35, 0.29)	0.13 (-0.84, 1.10)	-0.52 (-1.31, 0.28)	-0.37 (-1.33, 0.59)	0.19 (-0.78, 1.16)	0.34 (-0.46, 1.15)	0.13 (-0.75, 1.02)	0.61 (-0.36, 1.58)	-0.45 (-1.82, 0.91)
Between 1970-1999	0.16 (-0.42, 0.74)	-0.15 (-0.53, 0.24)	0.0004 (-0.57, 0.57)	0.29 (-0.87, 1.45)	0.33 (-0.76, 1.42)	-0.003 (-1.06, 1.06)	-0.08 (-1.17, 1.01)	-0.12 (-0.91, 0.67)	0.61 (-0.33, 1.54)	0.13 (-0.65, 0.90)	0.29 (-0.64, 1.21)	0.35 (-0.59, 1.28)	0.78 (-0.003, 1.55)	0.05 (-0.80, 0.91)	0.55 (-0.39, 1.48)	-1.13 (-2.45, 0.18)
Vinyl Wallpaper																
No (ref)																
Yes	-0.41 (-0.86, 0.04)	-0.16 (-0.46, 0.15)	-0.18 (-0.60, 0.24)	0.05 (-1.01, 1.12)	0.43 (-0.44, 1.30)	-0.59 (-1.39, 0.22)	-0.25 (-1.08, 0.57)	0.08 (-0.56, 0.72)	-0.14 (-0.86, 0.58)	0.20 (-0.46, 0.85)	0.41 (-0.35, 1.16)	0.02 (-0.70, 0.73)	-0.14 (-0.79, 0.50)	0.31 (-0.30, 0.92)	-0.27 (-1.02, 0.48)	0.14 (-0.92, 1.20)
Water Source																
Well water (ref)																
City water	0.29 (-0.26, 0.84)	0.28 (-0.11, 0.67)	0.33 (-0.19, 0.85)	-0.26 (-1.51, 0.99)	-0.16 (-1.21, 0.89)	-0.14 (-1.19, 0.91)	0.29 (-0.73, 1.31)	-0.52 (-1.26, 0.23)	-0.71 (-1.60, 0.18)	-0.31 (-1.07, 0.46)	-0.58 (-1.44, 0.28)	-0.35 (-1.25, 0.54)	-0.45 (-1.18, 0.28)	-0.47 (-1.25, 0.31)	0.01 (-0.91, 0.93)	0.59 (-0.69, 1.87)
Vacuum Frequency																
Most days/every day (ref)																
Never/some days	-0.19 (-0.52, 0.14)	0.02 (-0.22, 0.26)	-0.20 (-0.52, 0.12)	0.29 (-0.47, 1.05)	-0.02 (-0.67, 0.62)	-0.36 (-1.0, 0.28)	0.02 (-0.59, 0.64)	0.05 (-0.41, 0.51)	-0.14 (-0.70, 0.41)	-0.15 (-0.62, 0.32)	-0.10 (-0.63, 0.43)	-0.04 (-0.58, 0.51)	-0.34 (-0.79, 0.10)	-0.31 (-0.78, 0.17)	0.10 (-0.47, 0.66)	-0.26 (-1.03, 0.51)
Floor Type																
Others (ref)																
Carpet	0.10 (-0.31, 0.52)	0.15 (-0.14, 0.44)	0.30 (-0.09, 0.69)	0.35 (-0.59, 1.28)	-0.18 (-0.97, 0.61)	0.09 (-0.69, 0.88)	0.30 (-0.46, 1.06)	0.51 (-0.05, 1.06)	0.53 (-0.13, 1.20)	0.30 (-0.27, 0						

Table 5. Linear Regression Models Adjusted for Age and Education

Ultrashort-chain (C2-C3)		Short-chain (C4-C7)						Long-chain (C6-C16)															
	TFA	PFPrA	PFBA	PFBS	PFPeS	PFHxA	PFHpA	PFHxS	PFHpS	PFOA	PFOS	PFECHS	PFNA	PFDA	PFUdA	PFHxDA							
	Beta (95% CI)		Beta (95% CI)						Beta (95% CI)														
People living in home																							
5-6 people (ref)																							
1-2 people	-0.01 (-0.47, 0.44)	0.07 (-0.24, 0.38)	-0.37 (-0.78, 0.03)	0.27 (-0.71, 1.26)	0.59 (-0.30, 1.47)	0.07 (-0.81, 0.95)	0.20 (-0.64, 1.05)	0.38 (-0.19, 0.95)	0.26 (-0.43, 0.94)	0.43 (-0.18, 1.04)	0.29 (-0.40, 0.98)	0.33 (-0.38, 1.05)	0.22 (-0.37, 0.82)	0.11 (-0.53, 0.75)	0.24 (-0.52, 1)	-0.40 (-1.51, 0.71)							
3-4 people	-0.04 (-0.52, 0.43)	-0.21 (-0.54, 0.11)	-0.52 (-0.95, -0.10)	-0.89 (-1.92, 0.14)	0.18 (-0.74, 1.10)	-0.24 (-1.16, 0.68)	-0.11 (-1, 0.77)	0.08 (-0.51, 0.67)	-0.37 (-1.09, 0.35)	-0.07 (-0.70, 0.56)	-0.36 (-1.08, 0.36)	-0.46 (-1.21, 0.28)	-0.29 (-0.91, 0.32)	-0.28 (-0.95, 0.39)	-0.15 (-0.94, 0.65)	-0.42 (-1.57, 0.74)							
Hours away from home																							
< 8 hours per day (ref)																							
≤ 8 hours per day	0.05 (-0.30, 0.39)	-0.03 (-0.27, 0.21)	-0.16 (-0.47, 0.16)	-0.40 (-1.17, 0.37)	0.18 (-0.49, 0.85)	-0.07 (-0.73, 0.60)	0.01 (-0.63, 0.64)	-0.23 (-0.66, 0.20)	-0.43 (-0.95, 0.09)	-0.29 (-0.75, 0.18)	-0.39 (-0.91, 0.14)	0.03 (-0.53, 0.59)	-0.07 (-0.53, 0.38)	-0.18 (-0.66, 0.31)	-0.20 (-0.77, 0.37)	0.39 (-0.44, 1.22)							
Home Type																							
Mobile home or others (ref)																							
House	0.33 (-0.22, 0.88)	0.04 (-0.36, 0.44)	0.15 (-0.37, 0.67)	-0.36 (-1.64, 0.92)	-0.55 (-1.65, 0.56)	0.58 (-0.50, 1.66)	0.54 (-0.51, 1.59)	-0.30 (-1.02, 0.42)	-0.28 (-1.17, 0.60)	-0.44 (-1.22, 0.33)	-0.18 (-1.07, 0.71)	-0.30 (-1.23, 0.62)	0.35 (-0.40, 1.11)	-0.24 (-1.04, 0.56)	0.35 (-0.59, 1.30)	0.28 (-1.08, 1.64)							
Apartment	0.69 (0.09, 1.29)	0.09 (-0.34, 0.53)	0.37 (-0.20, 0.93)	-0.83 (-2.23, 0.57)	-0.13 (-1.34, 1.08)	1.13 (-0.04, 2.31)	0.70 (-0.45, 1.85)	-0.38 (-1.16, 0.40)	-0.21 (-1.17, 0.76)	-0.34 (-1.18, 0.50)	-0.31 (-1.28, 0.66)	-0.03 (-1.04, 0.99)	0.52 (-0.31, 1.34)	0.05 (-0.82, 0.93)	0.79 (-0.24, 1.81)	1.09 (-0.40, 2.58)							
Resident Year																							
Less than 5 years (ref)																							
5-10 years	0.14 (-0.29, 0.57)	0.21 (-0.10, 0.51)	0.06 (-0.35, 0.47)	0.15 (-0.86, 1.15)	0.22 (-0.65, 1.09)	0.10 (-0.75, 0.96)	0.23 (-0.59, 1.05)	-0.36 (-0.91, 0.19)	0.02 (-0.67, 0.71)	0.03 (-0.57, 0.62)	0.16 (-0.53, 0.84)	0.53 (-0.19, 1.24)	0.16 (-0.43, 0.75)	0.11 (-0.52, 0.73)	0.15 (-0.58, 0.88)	0.51 (-0.56, 1.58)							
11-20 years	-0.10 (-0.70, 0.50)	0.23 (-0.20, 0.66)	0.19 (-0.38, 0.76)	0.27 (-1.14, 1.67)	-0.08 (-1.29, 1.13)	-0.52 (-1.71, 0.67)	-0.34 (-1.48, 0.81)	-0.53 (-1.30, 0.24)	-0.17 (-1.12, 0.79)	-0.58 (-1.41, 0.25)	-0.18 (-1.13, 0.78)	0.04 (-0.96, 1.04)	-0.07 (-0.89, 0.76)	0.37 (-0.50, 1.24)	0.61 (-0.41, 1.62)	-0.47 (-1.95, 1.02)							
21-30 years	0.25 (-0.43, 0.94)	0.13 (-0.36, 0.61)	0.13 (-0.52, 0.78)	0.75 (-0.84, 2.34)	-0.03 (-1.41, 1.35)	0.08 (-1.28, 1.43)	0.44 (-0.86, 1.74)	-0.02 (-0.89, 0.85)	0.35 (-0.74, 1.43)	-0.01 (-0.96, 0.93)	0.57 (-0.52, 1.65)	0.35 (-0.79, 1.48)	0.19 (-0.75, 1.13)	0.45 (-0.54, 1.44)	0.88 (-0.28, 2.03)	0.71 (-0.98, 2.40)							
31+ years	0.64 (0.01, 1.28)	0.17 (-0.28, 0.62)	0.08 (-0.53, 0.68)	0.01 (-1.50, 1.47)	0.04 (-1.24, 1.32)	-0.52 (-1.78, 0.74)	-0.01 (-1.22, 1.21)	-0.06 (-0.88, 0.75)	0.03 (-0.99, 1.04)	-0.44 (-1.32, 0.43)	0.35 (-0.66, 1.37)	0.24 (-0.82, 1.30)	0.14 (-0.73, 1.01)	0.41 (-0.51, 1.34)	0.62 (-0.46, 1.70)	0.48 (-1.09, 2.06)							
Residence Built																							
Built 2000 or after (ref)																							
Before 1940	-0.18 (-0.91, 0.54)	-0.43 (-0.90, 0.03)	-0.33 (-1.01, 0.36)	-1.11 (-2.58, 0.36)	-0.26 (-1.63, 1.10)	-0.67 (-2.02, 0.69)	-0.88 (-2.24, 0.49)	-0.88 (-1.77, 0.01)	-0.47 (-1.56, 0.63)	-0.39 (-1.33, 0.55)	0 (-1.14, 1.15)	-0.24 (-1.42, 0.94)	0.63 (-0.33, 1.59)	0.18 (-0.85, 1.22)	0.35 (-0.83, 1.53)	-1.20 (-2.88, 0.48)							
Between 1940-1969	-0.11 (-0.79, 0.56)	-0.16 (-0.59, 0.27)	-0.25 (-0.89, 0.38)	-0.07 (-1.45, 1.30)	0.46 (-0.81, 1.74)	-0.84 (-2.10, 0.43)	-0.52 (-1.80, 0.75)	-0.76 (-1.60, 0.07)	-0.29 (-1.31, 0.73)	-0.77 (-1.65, 0.11)	-0.54 (-1.61, 0.53)	-0.04 (-1.14, 1.06)	0.40 (-0.50, 1.29)	-0.15 (-1.12, 0.82)	0.47 (-0.63, 1.58)	-0.76 (-2.33, 0.81)							
Between 1970-1999	0.03 (-0.63, 0.69)	-0.27 (-0.69, 0.15)	-0.29 (-0.91, 0.33)	-0.06 (-1.40, 1.28)	0.57 (-0.67, 1.81)	-0.30 (-1.53, 0.93)	-0.40 (-1.64, 0.84)	-0.40 (-1.12, 0.41)	0.16 (-0.84, 1.15)	-0.16 (-1.02, 0.69)	0.06 (-0.98, 1.10)	0.09 (-0.98, 1.17)	0.79 (-0.08, 1.67)	-0.28 (-1.22, 0.66)	0.36 (-0.71, 1.43)	-1.46 (-2.99, 0.08)							
Vinyl Wallpaper																							
No (ref)																							
Yes	-0.42 (-0.87, 0.04)	-0.19 (-0.49, 0.11)	-0.23 (-0.62, 0.17)	0.01 (-1.08, 1.09)	0.42 (-0.48, 1.31)	-0.63 (-1.45, 0.19)	-0.34 (-1.18, 0.49)	-0.02 (-0.62, 0.59)	-0.24 (-0.94, 0.45)	0.12 (-0.54, 0.78)	0.31 (-0.45, 1.08)	-0.03 (-0.76, 0.69)	-0.22 (-0.86, 0.43)	0.26 (-0.35, 0.87)	-0.34 (-1.09, 0.41)	0.15 (-0.97, 1.27)							

Water Source

Well water (ref)

City water	0.32 (-0.24, 0.87)	0.37 (-0.01, 0.75)	0.41 (-0.09, 0.92)	-0.14 (-1.41, 1.12)	-0.06 (-1.15, 1.03)	-0.03 (-1.11, 1.05)	0.45 (-0.58, 1.48)	-0.30 (-1, 0.40)	-0.53 (-1.38, 0.33)	-0.16 (-0.92, 0.60)	-0.41 (-1.28, 0.45)	-0.26 (-1.17, 0.65)	-0.31 (-1.05, 0.42)	-0.39 (-1.17, 0.39)	0.14 (-0.80, 1.07)	0.63 (-0.72, 1.98)
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Vacuum Frequency

Most days/every day (ref)

Never/some days	-0.15 (-0.51, 0.20)	-0.07 (-0.31, 0.18)	-0.33 (-0.65, -0.01)	0.16 (-0.65, 0.96)	-0.18 (-0.88, 0.52)	-0.46 (-1.15, 0.22)	0.01 (-0.65, 0.66)	-0.08 (-0.52, 0.37)	-0.30 (-0.85, 0.25)	-0.21 (-0.69, 0.28)	-0.15 (-0.71, 0.41)	-0.19 (-0.77, 0.39)	-0.48 (-0.94, -0.01)	-0.48 (-0.97, 0.01)	0 (-0.60, 0.60)	-0.31 (-1.17, 0.54)
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Floor Type

Others (ref)

Carpet	0.10 (-0.35, 0.55)	0 (-0.32, 0.31)	0.09 (-0.33, 0.51)	-0.06 (-1.09, 0.96)	-0.41 (-1.29, 0.47)	-0.07 (-0.94, 0.81)	0 (-0.84, 0.84)	0.18 (-0.39, 0.75)	0.06 (-0.64, 0.76)	0.02 (-0.59, 0.64)	-0.12 (-0.83, 0.58)	0.14 (-0.60, 0.88)	0.37 (-0.22, 0.97)	0.09 (-0.55, 0.73)	0.26 (-0.50, 1.02)	0.13 (-0.96, 1.23)
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