Figure S1. Correlation matrix for moderately-chlorinated PCBs (A) and organochlorine pesticides (B).



Abbreviations: polychlorinated biphenyl (PCB), dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), hexachlorocyclohexane (HCCH), hexachlorobenzene (HCB)

Table S1. Median and range of all measured polychlorinated biphenyl (PCB) and organochlorine (OC) pesticide analytes by thyroid cancer status, and odds ratios (OR) and 95% confidence intervals (95%CI) for a 1, 10, 100, or 1000 ng/g change in analyte, overall and stratified by birth cohort.

|  |  | Thyroid Cancer | Control |  |  |  | Stratified by Birth Cohort |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | DetectionLimit | Analyte (ng/g lipid) | Analyte (ng/g lipid) |  | Total (n=324) |  | 1923-1932 n=49 ca/98 ctrl | 1933-1942 n=37 ca/74 ctrl | 1943-1957 n=22 ca/44 ctrl |  |
|   | ng/g lipid | Median (Range) | Median (Range) | p1 | OR (95% CI) |   | OR (95% CI) | OR (95% CI) | OR (95% CI) | pinteraction |
| Total PCBs2 |  | 971.4 (278.2–3977.8) | 1075 (199.9–4240.8) | 0.10 | 0.96 (0.90–1.02) |  | 0.92 (0.83–1.01) | 0.94 (0.86–1.03) | 1.25 (1.00–1.56) | 0.04 |
| Low-chlorinated2 |  | 67.8 (13.9–673.2) | 69.9 (15.8–1262.1) | 0.61 | 0.98 (0.76–1.26) |  | 0.53 (0.23–1.21) | 1.15 (0.81–1.63) | 0.87 (0.49–1.56) | 0.21 |
| PCB 282 | 3.1–15.4 | 19.8 (3.2–468) | 19.7 (3.8–679) | 0.83 | 1.05 (0.70–1.58) |  | 0.20 (0.03–1.49) | 1.29 (0.78–2.14) | 0.78 (0.26–2.32) | 0.17 |
| PCB 443 | 0.5–2.6 | 4.5 (0.5–66.6) | 4.2 (0.6–162) | 0.65 | 0.97 (0.79–1.19) |  | 0.91 (0.50–1.67) | 1.02 (0.78–1.34) | 0.90 (0.60–1.35) | 0.86 |
| PCB 493 | 0.4–2 | 2.4 (0.4–45.9) | 2.4 (0.4–106) | 0.94 | 0.93 (0.67–1.30) |  | 0.78 (0.26–2.28) | 1.02 (0.67–1.54) | 0.81 (0.39–1.66) | 0.81 |
| PCB 523 | 0.5–2.6 | 6.5 (0.6–75.3) | 7 (0.7–162) | 0.87 | 0.95 (0.80–1.13) |  | 0.93 (0.65–1.32) | 1.02 (0.77–1.35) | 0.88 (0.59–1.32) | 0.83 |
| PCB 663 | 0.6–2.8 | 8.1 (0.4–45.7) | 9.2 (0.8–91.6) | 0.27 | 0.90 (0.65–1.24) |  | 0.81 (0.49–1.36) | 1.01 (0.66–1.54) | 0.67 (0.20–2.26) | 0.71 |
| PCB 743 | 0.6–2.8 | 21 (5.8–92) | 23.5 (1.2–94.3) | 0.09 | 0.85 (0.69–1.05) |  | 0.77 (0.57–1.05) | 0.90 (0.63–1.27) | 1.33 (0.62–2.85) | 0.42 |
| Moderately-chlorinated2 |  | 806.4 (230.1–3597.3) | 919.9 (161.8–3900.7) | 0.13 | 0.95 (0.88–1.02) |  | 0.91 (0.81–1.02) | 0.92 (0.82–1.03) | 1.31 (1.01–1.70) | 0.04 |
| PCB 873 | 0.4–2 | 3.3 (0.2–23.1) | 3.5 (0.4–50.7) | 0.30 | 0.71 (0.33–1.55) |  | 0.90 (0.42–1.95) | 0.43 (0.08–2.46) | 0.33 (0.02–7.05) | 0.65 |
| PCB 993 | 0.4–2 | 30.6 (3–120) | 33.1 (5.4–162) | 0.08 | 0.85 (0.72–1.00) |  | 0.78 (0.61–0.99) | 0.86 (0.65–1.14) | 1.57 (0.82–3.01) | 0.14 |
| PCB 1013 | 0.4–2 | 7.5 (1.2–44.6) | 7.9 (0.7–86.2) | 0.71 | 0.91 (0.67–1.23) |  | 1.06 (0.75–1.51) | 0.65 (0.29–1.46) | 0.64 (0.23–1.79) | 0.40 |
| PCB 1053 | 0.4–2 | 15 (0.4–57.5) | 16 (0.7–65.7) | 0.34 | 0.83 (0.62–1.12) |  | 0.81 (0.55–1.20) | 0.63 (0.34–1.17) | 4.26 (0.96–19.0) | 0.07 |
| PCB 1103 | 0.6–2.7 | 3.5 (0.3–49.2) | 3.5 (0.7–93.3) | 0.68 | 0.93 (0.65–1.33) |  | 1.01 (0.69–1.48) | 0.84 (0.32–2.18) | 0.44 (0.05–3.93) | 0.73 |
| PCB 1144 | 0.4–2 | 2.1 (0.2–9.9) | 2.4 (0.5–11.3) | 0.05 | 0.78 (0.62–0.97) |  | 0.70 (0.50–0.98) | 0.78 (0.53–1.14) | 1.14 (0.61–2.15) | 0.40 |
| PCB 1183 | 0.4–2 | 61.3 (13.2–226) | 68.7 (14.9–288) | 0.30 | 0.96 (0.89–1.04) |  | 0.94 (0.85–1.05) | 0.92 (0.80–1.07) | 1.28 (0.97–1.71) | 0.11 |
| PCB 1284 | 0.4–2 | 3.7 (0.2–14.3) | 3.5 (0.5–28.8) | 0.61 | 0.96 (0.87–1.06) |  | 0.93 (0.81–1.07) | 0.94 (0.81–1.10) | 1.52 (0.90–2.56) | 0.21 |
| PCB 138/1582 | 0.4–2 | 168 (36.1–689) | 188.5 (31.7–827) | 0.28 | 0.86 (0.64–1.15) |  | 0.73 (0.46–1.15) | 0.78 (0.48–1.25) | 4.54 (1.20–17.2) | 0.04 |
| PCB 1463 | 1–5.2 | 25.6 (8.8–152) | 28.9 (4.7–169) | 0.29 | 0.94 (0.80–1.11) |  | 0.85 (0.65–1.11) | 0.92 (0.73–1.16) | 2.48 (1.10–5.58) | 0.05 |
| PCB 1494 | 0.4–2 | 3.5 (0.2–15.5) | 4 (0.4–38.4) | 0.22 | 0.95 (0.87–1.03) |  | 0.99 (0.89–1.10) | 0.88 (0.74–1.04) | 0.91 (0.73–1.15) | 0.46 |
| PCB 1514 | 0.4–2 | 4 (0.2–25.8) | 4.4 (0.5–23.7) | 0.32 | 0.98 (0.89–1.07) |  | 1.06 (0.94–1.20) | 0.82 (0.66–1.01) | 0.93 (0.74–1.17) | 0.10 |
| PCB 1532 | 0.4–2 | 197.5 (41.2–928) | 222 (38.7–1120) | 0.24 | 0.91 (0.72–1.14) |  | 0.75 (0.50–1.12) | 0.88 (0.63–1.22) | 3.47 (1.18–10.2) | 0.03 |
| PCB 1563 | 1.1–5.4 | 19.6 (7.3–96.1) | 21.4 (4.2–84.6) | 0.16 | 0.90 (0.71–1.13) |  | 0.75 (0.50–1.11) | 0.87 (0.62–1.23) | 2.16 (0.93–5.01) | 0.08 |
| PCB 1574 | 0.4–2 | 4.4 (0.2–24) | 4.8 (0.6–20.5) | 0.25 | 0.96 (0.87–1.06) |  | 0.88 (0.74–1.04) | 0.95 (0.82–1.09) | 1.45 (1.03–2.05) | 0.04 |
| PCB 1674 | 0.4–2 | 9 (0.3–33.6) | 9.5 (0.6–38) | 0.34 | 0.98 (0.93–1.04) |  | 0.97 (0.89–1.06) | 0.93 (0.84–1.03) | 1.22 (1.02–1.47) | 0.03 |
| PCB 1703 | 0.4–2 | 51.6 (22.6–217) | 56.9 (11.4–214) | 0.18 | 0.96 (0.87–1.05) |  | 0.88 (0.75–1.05) | 0.94 (0.82–1.06) | 1.35 (0.98–1.85) | 0.07 |
| PCB 1724 | 0.4–2 | 7 (0.2–35.7) | 7.4 (0.5–31.3) | 0.28 | 0.98 (0.92–1.04) |  | 0.95 (0.85–1.06) | 0.96 (0.87–1.05) | 1.29 (0.99–1.69) | 0.10 |
| PCB 1774 | 0.4–2 | 11.9 (2.3–42.6) | 13 (2–43.4) | 0.21 | 0.96 (0.92–1.01) |  | 0.95 (0.88–1.02) | 0.94 (0.86–1.01) | 1.12 (0.96–1.30) | 0.11 |
| PCB 1784 | 0.4–2 | 9 (3.2–40.7) | 9.5 (0.6–35.8) | 0.23 | 0.98 (0.93–1.03) |  | 0.94 (0.85–1.02) | 0.97 (0.90–1.04) | 1.21 (1.00–1.47) | 0.06 |
| PCB 1802 | 0.4–2 | 112.5 (48.9–570) | 127 (23.5–513) | 0.20 | 0.86 (0.58–1.27) |  | 0.59 (0.28–1.24) | 0.79 (0.46–1.37) | 3.43 (0.92–12.7) | 0.07 |
| PCB 1833 | 0.4–2 | 18.2 (2.7–64.8) | 20.2 (3.7–77.2) | 0.30 | 0.85 (0.64–1.14) |  | 0.74 (0.47–1.15) | 0.73 (0.45–1.19) | 4.00 (1.20–13.3) | 0.03 |
| PCB 1873 | 0.4–2 | 39.8 (10.4–204) | 44.2 (5.9–186) | 0.17 | 0.94 (0.84–1.06) |  | 0.85 (0.69–1.04) | 0.94 (0.80–1.11) | 1.45 (0.94–2.23) | 0.09 |
| PCB 1894 | 0.4–2 | 2.4 (0.2–11.7) | 2.6 (0.5–10.2) | 0.47 | 0.63 (0.12–3.45) |  | 0.87 (0.64–1.20) | 0.89 (0.70–1.14) | 1.63 (0.94–2.82) | 0.12 |
| Highly-chlorinated3 |  | 65.6 (27.4–269.5) | 71.5 (10.4–274.7) | 0.06 | 0.95 (0.88–1.02) |  | 0.87 (0.75–1.00) | 0.95 (0.86–1.06) | 1.10 (0.92–1.33) | 0.13 |
| PCB 1943 | 0.4–2 | 15.5 (6.2–68.1) | 16.5 (0.5–75.9) | 0.18 | 0.88 (0.67–1.15) |  | 0.72 (0.43–1.20) | 0.86 (0.58–1.27) | 1.28 (0.68–2.43) | 0.38 |
| PCB 1954 | 0.4–2 | 4.3 (0.2–18.3) | 4.8 (0.5–15.2) | 0.10 | 0.91 (0.81–1.02) |  | 0.85 (0.68–1.06) | 0.89 (0.74–1.06) | 1.03 (0.83–1.29) | 0.43 |
| PCB 196/2033 | 0.4–2 | 17.9 (6.2–74.5) | 19.7 (3.4–69.9) | 0.08 | 0.79 (0.59–1.04) |  | 0.55 (0.33–0.92) | 0.81 (0.54–1.22) | 1.57 (0.77–3.20) | 0.06 |
| PCB 1993 | 0.4–2 | 16.6 (6.3–67) | 17.9 (2.3–77.6) | 0.06 | 0.77 (0.58–1.03) |  | 0.53 (0.31–0.90) | 0.84 (0.56–1.24) | 1.26 (0.65–2.43) | 0.12 |
| PCB 2064 | 0.4–2 | 5.7 (0.2–29.1) | 6.4 (0.5–27.1) | 0.04 | 0.95 (0.88–1.02) |  | 0.82 (0.70–0.96) | 0.98 (0.88–1.08) | 1.07 (0.89–1.27) | 0.08 |
| PCB 2094 | 0.4–2 | 5.1 (0.4–30.9) | 5.5 (1.4–19.2) | 0.46 | 1.00 (0.93–1.08) |  | 0.96 (0.85–1.08) | 0.97 (0.85–1.11) | 1.45 (1.04–2.01) | 0.06 |
| Thyroid-like2 |  | 179.4 (35.6–945.7) | 191.0 (44.6–1064.4) | 0.33 | 0.90 (0.69–1.16) |  | 0.62 (0.38–1.02) | 1.01 (0.73–1.40) | 1.83 (0.63–5.28) | 0.11 |
| Dioxin-like3 |  | 113.1 (36.0–452.5) | 127.0 (28.7–505.8) | 0.16 | 0.97 (0.92–1.01) |  | 0.95 (0.88–1.02) | 0.94 (0.86–1.03) | 1.16 (0.98–1.38) | 0.07 |
| Wolff 13 |  | 81.7 (18.1–288.2) | 86.3 (14.6–510.9) | 0.33 | 0.97 (0.92–1.03) |  | 0.95 (0.86–1.04) | 0.97 (0.89–1.06) | 0.99 (0.90–1.10) | 0.79 |
| Wolff 1A3 |  | 13.3 (1.8–187.8) | 13.4 (2.4–423) | 0.84 | 0.98 (0.91–1.06) |  | 0.96 (0.80–1.16) | 1.01 (0.91–1.12) | 0.96 (0.82–1.12) | 0.83 |
| Wolff 1B3 |  | 59.9 (15.1–265.1) | 68.1 (8.9–241.9) | 0.13 | 0.94 (0.86–1.03) |  | 0.91 (0.79–1.05) | 0.93 (0.81–1.06) | 1.19 (0.89–1.61) | 0.26 |
| Wolff 22 |  | 358.7 (99–1440.3) | 404.2 (78–1567.2) | 0.17 | 0.92 (0.79–1.06) |  | 0.86 (0.68–1.07) | 0.87 (0.68–1.11) | 1.94 (1.05–3.59) | 0.04 |
| Wolff 2A2 |  | 134.3 (39.1–524.7) | 152.8 (34.2–592.1) | 0.15 | 0.80 (0.55–1.16) |  | 0.71 (0.42–1.20) | 0.70 (0.36–1.36) | 4.05 (0.85–19.2) | 0.10 |
| Wolff 2B2 |  | 224.3 (59.9–915.6) | 247.1 (43.8–1069.8) | 0.24 | 0.89 (0.71–1.11) |  | 0.78 (0.54–1.11) | 0.83 (0.58–1.18) | 2.92 (1.11–7.69) | 0.04 |
| Wolff 32 |  | 364.3 (102.8–1675.2) | 403.3 (71–1857.7) | 0.17 | 0.94 (0.82–1.07) |  | 0.83 (0.66–1.05) | 0.92 (0.76–1.11) | 1.80 (1.04–3.12) | 0.04 |
|  |  |   |   |   |  |  |  |  |  |  |
| OC Pesticides |  |  |  |  |  |  |  |  |  |  |
| DDT Metabolites5 |  | 1630.3 (93–6793.6) | 1845.5 (145–11511.4) | 0.09 | 0.80 (0.66–0.98) |  | 0.69 (0.49–0.98) | 0.89 (0.66–1.20) | 0.87 (0.57–1.31) | 0.53 |
| *p,p’*-DDE5 | 3.3–16.4 | 1445 (67.6–6000) | 1630 (123–10800) | 0.08 | 0.79 (0.64–0.97) |  | 0.66 (0.45–0.97) | 0.88 (0.64–1.21) | 0.87 (0.56–1.35) | 0.49 |
| *p,p’*-DDT2 | 2–10 | 166.5 (12.5–762) | 198 (10.8–1450) | 0.18 | 0.86 (0.71–1.05) |  | 0.84 (0.63–1.13) | 0.96 (0.68–1.36) | 0.74 (0.41–1.33) | 0.72 |
| *o,p’*-DDT3 | 2–10 | 11 (2–75.3) | 13.3 (2.1–115) | 0.13 | 0.81 (0.64–1.02) |  | 0.79 (0.57–1.09) | 0.90 (0.62–1.29) | 0.72 (0.37–1.37) | 0.79 |
| Chlordane Metabolites3 |  | 28.4 (4.1–134.9) | 31.1 (6.5–168.6) | 0.32 | 0.92 (0.80–1.06) |  | 0.81 (0.65–1.02) | 0.88 (0.69–1.13) | 1.78 (1.09–2.93) | 0.02 |
| Oxychlordane3 | 2–10 | 12 (2–51.6) | 12.4 (2.1–71.6) | 0.32 | 0.81 (0.59–1.12) |  | 0.73 (0.46–1.18) | 0.64 (0.35–1.18) | 3.55 (1.05–12.0) | 0.04 |
| *trans-*Nonachlor3 | 2–10 | 16.8 (2.1–86.7) | 18.8 (3.7–97) | 0.44 | 0.89 (0.71–1.11) |  | 0.68 (0.47–0.98) | 0.90 (0.61–1.31) | 2.43 (1.11–5.34) | 0.02 |
| *β*-HCCH2 | 2–10 | 65.5 (1.8–452) | 74.2 (2.5–3320) | 0.06 | 0.62 (0.33–1.16) |  | 0.28 (0.09–0.88) | 0.94 (0.45–1.95) | 0.82 (0.24–2.81) | 0.21 |
| HCB2 | 2.4–11.6 | 173 (27.7–667) | 194 (11.1–2250) | 0.10 | 0.76 (0.54–1.06) |   | 0.63 (0.36–1.08) | 0.90 (0.54–1.48) | 0.87 (0.31–2.43) | 0.62 |

Abbreviations: dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), hexachlorocyclohexane (HCCH), hexachlorobenzene (HCB)

1 Wilcoxon rank sum test

2 OR reflects 100-unit change

3 OR reflects 10-unit change

4 OR reflects 1-unit change

5 OR reflects 1000-unit change

Table S2. Median and range of all measured polychlorinated biphenyl (PCB) and organochlorine (OC) pesticide analytes by birth cohort

|   | 1923-1932  | 1933-1942  | 1943-1957  |  |
| --- | --- | --- | --- | --- |
|  | 49 cases, 98 controls | 37 cases, 74 controls | 22 cases, 44 controls |  |
|  | median (range) | median (range) | median (range) | p1 |
| Total PCBs |  |  |  |  |
| Low-chlorinated | 73.3 (13.9–309.9) | 67.7 (15.8–1262.1) | 66.9 (16.6–777.8) | 0.72 |
| PCB 28 | 19.3 (3.2–160) | 17.8 (4.3–679) | 25.4 (5.2–388) | 0.09 |
| PCB 44 | 4.6 (0.5–37.9) | 3.7 (0.6–162) | 5.4 (0.8–113) | 0.30 |
| PCB 49 | 2.6 (0.4–20.5) | 1.9 (0.4–106) | 3.3 (0.7–65) | 0.14 |
| PCB 52 | 7.4 (1.3–75.2) | 6.1 (0.6–155) | 6.5 (0.8–162) | 0.07 |
| PCB 66 | 9.5 (0.8–51.6) | 8.4 (0.4–91.6) | 5.9 (1–49) | 0.005 |
| PCB 74 | 23.6 (4.6–94.3) | 23.1 (1.2–92) | 18.1 (5.5–77.7) | 0.002 |
| Moderately-chlorinated | 934.2 (230.1–3190.6) | 881.4 (402–3900.7) | 724 (161.8–1533.8) | 0.002 |
| PCB 87 | 3.8 (0.4–50.7) | 3.7 (0.2–17.1) | 2.6 (0.6–25.1) | <0.001 |
| PCB 99 | 36.4 (3–138) | 32.2 (7.3–162) | 23.3 (5.4–66.9) | <0.001 |
| PCB 101 | 9 (0.7–86.2) | 7.9 (1.6–48.3) | 4.9 (0.8–55.7) | <0.001 |
| PCB 105 | 18.1 (2.7–65.7) | 15.7 (0.4–61.8) | 8.9 (0.7–35.5) | <0.001 |
| PCB 110 | 3.7 (0.7–93.3) | 3.7 (0.3–32.6) | 2.6 (0.7–48.4) | <0.001 |
| PCB 114 | 2.6 (0.4–11.3) | 2.3 (0.2–10) | 1.8 (0.6–5.3) | <0.001 |
| PCB 118 | 73.8 (14.4–288) | 61.6 (13.2–248) | 43.8 (14.9–156) | <0.001 |
| PCB 128 | 4.1 (0.4–19.4) | 3.7 (0.2–28.8) | 1.7 (0.6–8.3) | <0.001 |
| PCB 138/158 | 196 (36.1–714) | 187 (75.2–827) | 148.5 (31.7–310) | <0.001 |
| PCB 146 | 30.1 (8.8–114) | 29.9 (10.3–169) | 21.9 (4.7–49.1) | <0.001 |
| PCB 149 | 4.1 (0.4–27.4) | 4.1 (0.2–13.2) | 2.3 (0.6–38.4) | <0.001 |
| PCB 151 | 4.9 (0.4–25.8) | 4.4 (0.2–17.3) | 2.1 (0.6–23.7) | <0.001 |
| PCB 153 | 228 (41.2–887) | 215 (94.5–1120) | 182.5 (38.7–380) | 0.002 |
| PCB 156 | 21.3 (7.3–74.8) | 21.5 (7.3–96.1) | 17.5 (4.2–38.7) | 0.009 |
| PCB 157 | 4.9 (1.6–20.5) | 4.8 (0.2–24) | 4.1 (0.6–8.9) | 0.01 |
| PCB 167 | 9.9 (3.6–38) | 9.1 (0.3–33.6) | 8.1 (1–17.9) | <0.001 |
| PCB 170 | 54.8 (18.4–177) | 57 (22.4–217) | 53.4 (11.4–109) | 0.13 |
| PCB 172 | 7.2 (0.5–26.8) | 7.9 (0.2–35.7) | 6.7 (1.1–14.2) | 0.03 |
| PCB 177 | 13 (2.3–43.4) | 13.8 (5.2–42.6) | 10.8 (2–24.6) | <0.001 |
| PCB 178 | 9.1 (0.9–29) | 10 (4.2–40.7) | 8.5 (0.6–19.9) | 0.04 |
| PCB 180 | 121 (40.4–388) | 129 (48.9–570) | 122 (23.5–255) | 0.27 |
| PCB 183 | 20.9 (2.7–62.5) | 20.4 (8.9–77.2) | 16.4 (3.7–35.2) | <0.001 |
| PCB 187 | 45.4 (10.4–141) | 48.8 (19.5–204) | 36.5 (5.9–84.6) | <0.001 |
| PCB 189 | 2.5 (0.5–7.8) | 2.6 (0.2–11.7) | 2.4 (0.6–5.4) | 0.15 |
| Highly-chlorinated | 70.7 (27.2–212.8) | 72.1 (32.3–274.7) | 63.6 (10.4–188.5) | 0.05 |
| PCB 194 | 16.2 (0.5–51.9) | 16.7 (6.8–75.9) | 14.9 (0.6–39.7) | 0.27 |
| PCB 195 | 4.5 (1.7–12.7) | 5 (0.2–18.3) | 4.3 (0.6–13.5) | 0.05 |
| PCB 196/203 | 19.2 (6.2–59.4) | 20.2 (9.1–74.5) | 18.4 (3.4–58.1) | 0.04 |
| PCB 199 | 17.2 (5.9–55.8) | 18.3 (6.2–77.6) | 16.1 (2.3–54.8) | 0.08 |
| PCB 206 | 6.3 (0.5–18.6) | 6.6 (0.2–29.1) | 5.2 (1.5–20.4) | 0.001 |
| PCB 209 | 5.9 (2–30.9) | 5.8 (0.4–19.8) | 3.6 (0.8–15.5) | <0.001 |
| Thyroid-like | 196.0 (34.6–629.3) | 180.2 (45.3–1064.4) | 137.0 (44.6–476.9) | 0.002 |
| Dioxin-like | 133.0 (36.0–505.8) | 120.5 (37.0–452.5) | 93.0 (28.7–263.2) | <0.001 |
| Wolff 1 | 88 (18–244) | 85 (34–511) | 73 (15–431) | 0.02 |
| Wolff 1A | 15 (2–132) | 12 (2–423) | 15 (2–340) | 0.18 |
| Wolff 1B | 69 (15–207) | 72 (30–265) | 53 (9–118) | <0.001 |
| Wolff 2 | 409 (99–1487) | 395 (157–1567) | 312 (78–748) | <0.001 |
| Wolff 2A | 158 (39–592) | 146 (44–525) | 109 (34–339) | <0.001 |
| Wolff 2B | 256 (60–894) | 247 (106–1070) | 202 (44–410) | 0.001 |
| Wolff 3 | 407 (103–1455) | 392 (168–1858) | 341 (71–670) | 0.01 |
|  |  |  |  |  |
| OC Insecticides |  |  |  |  |
| DDT Metabolites | 1808.7 (93–11406.8) | 2113.7 (383.9–8568) | 1268.4 (145–11511.4) | 0.002 |
| *p,p’*-DDE | 1525 (67.6–10800) | 1830 (351–7930) | 1170 (123–10400) | 0.002 |
| *p,p’*-DDT | 228 (15.7–1450) | 192 (12.5–716) | 103 (10.8–1080) | <0.001 |
| *o,p’*-DDT | 13.9 (2–115) | 13.3 (2.2–103) | 4.9 (2.8–94.6) | <0.001 |
| Chlordane Metabolites | 34.6 (4.1–168.6) | 29.8 (4.4–138.8) | 22.3 (7.1–69.3) | <0.001 |
| Oxychlordane | 14.4 (2–71.6) | 12.4 (2.2–59) | 9.2 (3–34.2) | <0.001 |
| *trans-*Nonachlor | 21.3 (2.1–97) | 16.9 (2.2–86.7) | 14.5 (3.6–46.5) | <0.001 |
| *β*-HCCH | 79.6 (1.8–331) | 71.8 (2.2–452) | 58.9 (3.7–3320) | <0.001 |
| HCB | 197 (11.1–2250) | 204 (32.7–667) | 117.5 (18.3–389) | <0.001 |

Abbreviations: dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), hexachlorocyclohexane (HCCH), hexachlorobenzene (HCB)

1 Wilcoxon rank sum test

Table S3. Odds ratios (OR) and 95% confidence intervals (95%CI) for a 10 ng/g concentration change (unless otherwise specified) adjusted for body max index and smoking status overall and stratified by birth cohort.

|  | Total |  | Birth Cohort |  |
| --- | --- | --- | --- | --- |
|  | (n=324) |  | 1923-1932 n=49 ca/98 ctrl | 1933-1942 n=37 ca/74 ctrl | 1943-1957 n=22 ca/44 ctrl |  |
|   | OR (95% CI) |   | OR (95% CI) | OR (95% CI) | OR (95% CI) | pinteraction |
| Total PCBs1 | 0.96 (0.91–1.03) |  | 0.92 (0.83–1.02) | 0.96 (0.87–1.06) | 1.27 (1.00–1.62) | 0.03 |
| Low-chlorinated1 | 0.99 (0.76–1.30) |  | 0.54 (0.23–1.27) | 1.18 (0.80–1.74) | 0.89 (0.48–1.65) | 0.24 |
| PCB 281 | 1.06 (0.70–1.63) |  | 0.22 (0.03–1.75) | 1.29 (0.75–2.23) | 0.81 (0.25–2.61) | 0.22 |
| PCB 442 | 0.98 (0.79–1.21) |  | 0.92 (0.49–1.73) | 1.04 (0.77–1.39) | 0.91 (0.59–1.40) | 0.85 |
| PCB 492 | 0.95 (0.67–1.34) |  | 0.82 (0.26–2.52) | 1.04 (0.66–1.63) | 0.81 (0.37–1.78) | 0.82 |
| PCB 522 | 0.96 (0.80–1.15) |  | 0.94 (0.65–1.36) | 1.03 (0.75–1.41) | 0.89 (0.58–1.36) | 0.84 |
| PCB 662 | 0.90 (0.64–1.25) |  | 0.77 (0.45–1.32) | 1.04 (0.66–1.65) | 0.71 (0.19–2.62) | 0.65 |
| PCB 742 | 0.88 (0.71–1.09) |  | 0.78 (0.57–1.07) | 0.96 (0.65–1.40) | 1.49 (0.64–3.46) | 0.32 |
| Moderately-chlorinated1 | 0.96 (0.89–1.03) |  | 0.91 (0.81–1.02) | 0.94 (0.84–1.05) | 1.34 (1.01–1.79) | 0.02 |
| PCB 872 | 0.72 (0.33–1.55) |  | 0.88 (0.40–1.92) | 0.48 (0.08–2.82) | 0.32 (0.01–9.63) | 0.70 |
| PCB 992 | 0.86 (0.73–1.02) |  | 0.76 (0.59–0.99) | 0.89 (0.67–1.19) | 1.57 (0.80–3.06) | 0.14 |
| PCB 1012 | 0.91 (0.67–1.24) |  | 1.06 (0.74–1.52) | 0.66 (0.29–1.49) | 0.66 (0.22–1.92) | 0.45 |
| PCB 1052 | 0.82 (0.60–1.11) |  | 0.77 (0.51–1.17) | 0.66 (0.36–1.24) | 4.32 (0.88–21.3) | 0.08 |
| PCB 1102 | 0.93 (0.65–1.34) |  | 1.00 (0.68–1.47) | 0.86 (0.32–2.34) | 0.40 (0.03–5.19) | 0.71 |
| PCB 1143 | 0.79 (0.63–1.00) |  | 0.70 (0.49–1.00) | 0.84 (0.57–1.23) | 1.13 (0.58–2.18) | 0.42 |
| PCB 1182 | 0.96 (0.89–1.04) |  | 0.93 (0.83–1.05) | 0.93 (0.80–1.08) | 1.27 (0.95–1.70) | 0.12 |
| PCB 1283 | 0.96 (0.87–1.06) |  | 0.92 (0.79–1.07) | 0.95 (0.81–1.11) | 1.63 (0.90–2.93) | 0.18 |
| PCB 138/1581 | 0.88 (0.65–1.19) |  | 0.72 (0.45–1.17) | 0.82 (0.50–1.34) | 5.12 (1.19–22.0) | 0.02 |
| PCB 1462 | 0.96 (0.82–1.13) |  | 0.85 (0.64–1.13) | 0.95 (0.75–1.21) | 2.73 (1.14–6.52) | 0.03 |
| PCB 1493 | 0.95 (0.87–1.03) |  | 0.99 (0.88–1.10) | 0.88 (0.74–1.06) | 0.92 (0.74–1.15) | 0.56 |
| PCB 1513 | 0.97 (0.88–1.06) |  | 1.05 (0.92–1.19) | 0.82 (0.66–1.03) | 0.93 (0.74–1.18) | 0.15 |
| PCB 1531 | 0.93 (0.74–1.17) |  | 0.75 (0.49–1.15) | 0.92 (0.65–1.29) | 4.09 (1.23–13.7) | 0.02 |
| PCB 1562 | 0.93 (0.73–1.19) |  | 0.76 (0.49–1.16) | 0.92 (0.64–1.33) | 2.31 (0.95–5.61) | 0.06 |
| PCB 1573 | 0.97 (0.88–1.08) |  | 0.89 (0.74–1.06) | 0.97 (0.83–1.13) | 1.46 (1.02–2.08) | 0.03 |
| PCB 1673 | 0.98 (0.93–1.04) |  | 0.97 (0.88–1.06) | 0.94 (0.85–1.04) | 1.22 (1.01–1.47) | 0.03 |
| PCB 1702 | 0.97 (0.88–1.06) |  | 0.88 (0.74–1.06) | 0.95 (0.83–1.09) | 1.47 (1.01–2.14) | 0.03 |
| PCB 1723 | 0.99 (0.92–1.06) |  | 0.96 (0.85–1.08) | 0.97 (0.87–1.07) | 1.38 (1.02–1.87) | 0.05 |
| PCB 1773 | 0.97 (0.92–1.02) |  | 0.95 (0.87–1.02) | 0.94 (0.87–1.03) | 1.13 (0.96–1.33) | 0.10 |
| PCB 1783 | 0.99 (0.93–1.04) |  | 0.93 (0.85–1.03) | 0.98 (0.90–1.06) | 1.24 (1.01–1.52) | 0.04 |
| PCB 1801 | 0.91 (0.60–1.38) |  | 0.60 (0.27–1.32) | 0.86 (0.47–1.54) | 5.11 (1.06–24.6) | 0.03 |
| PCB 1832 | 0.86 (0.64–1.16) |  | 0.72 (0.45–1.16) | 0.77 (0.47–1.26) | 4.30 (1.17–15.8) | 0.02 |
| PCB 1872 | 0.95 (0.84–1.08) |  | 0.84 (0.68–1.05) | 0.97 (0.81–1.15) | 1.52 (0.96–2.41) | 0.06 |
| PCB 1893 | 0.98 (0.82–1.17) |  | 0.88 (0.63–1.23) | 0.92 (0.71–1.19) | 1.83 (0.96–3.47) | 0.07 |
| High-chlorinated2 | 0.95 (0.88–1.04) |  | 0.86 (0.74–1.01) | 0.97 (0.86–1.09) | 1.14 (0.93–1.40) | 0.12 |
| PCB 1942 | 0.91 (0.68–1.23) |  | 0.73 (0.42–1.28) | 0.91 (0.59–1.41) | 1.45 (0.70–2.99) | 0.32 |
| PCB 1953 | 0.92 (0.81–1.04) |  | 0.84 (0.67–1.07) | 0.90 (0.74–1.09) | 1.06 (0.84–1.34) | 0.36 |
| PCB 196/2032 | 0.80 (0.59–1.08) |  | 0.53 (0.30–0.93) | 0.85 (0.54–1.33) | 1.72 (0.80–3.72) | 0.07 |
| PCB 1992 | 0.79 (0.59–1.08) |  | 0.51 (0.28–0.92) | 0.89 (0.57–1.39) | 1.36 (0.67–2.77) | 0.13 |
| PCB 2063 | 0.95 (0.88–1.03) |  | 0.82 (0.69–0.96) | 1.00 (0.89–1.12) | 1.09 (0.90–1.33) | 0.09 |
| PCB 2093 | 1.01 (0.93–1.10) |  | 0.95 (0.85–1.08) | 1.00 (0.87–1.16) | 1.50 (1.05–2.16) | 0.04 |
| Thyroid-like3 | 0.91 (0.70–1.18) |  | 0.62 (0.38–1.03) | 1.06 (0.74–1.52) | 1.86 (0.63–5.46) | 0.12 |
| Dioxin-like2 | 0.97 (0.92–1.02) |  | 0.95 (0.88–1.02) | 0.95 (0.87–1.04) | 1.16 (0.98–1.38) | 0.07 |
| Wolff 12 | 0.98 (0.92–1.03) |  | 0.95 (0.86–1.05) | 0.99 (0.90–1.08) | 1.00 (0.90–1.11) | 0.79 |
| Wolff 1A2 | 0.99 (0.91–1.07) |  | 0.97 (0.80–1.18) | 1.01 (0.90–1.14) | 0.96 (0.81–1.13) | 0.84 |
| Wolff 1B2 | 0.95 (0.87–1.05) |  | 0.91 (0.79–1.06) | 0.95 (0.82–1.09) | 1.24 (0.90–1.70) | 0.20 |
| Wolff 21 | 0.93 (0.80–1.08) |  | 0.85 (0.67–1.07) | 0.90 (0.70–1.16) | 2.03 (1.05–3.94) | 0.03 |
| Wolff 2A1 | 0.81 (0.55–1.18) |  | 0.69 (0.40–1.19) | 0.75 (0.38–1.50) | 4.04 (0.81–20.1) | 0.09 |
| Wolff 2B1 | 0.91 (0.72–1.14) |  | 0.77 (0.53–1.13) | 0.86 (0.60–1.24) | 3.35 (1.14–9.89) | 0.02 |
| Wolff 31 | 0.95 (0.83–1.09) |  | 0.83 (0.65–1.06) | 0.95 (0.77–1.15) | 2.00 (1.07–3.71) | 0.02 |
|   |  |  |  |  |  |  |
| OC Pesticides |  |  |  |  |  |  |
| DDT Metabolites4 | 0.81 (0.67–0.99) |  | 0.70 (0.50–1.00) | 0.93 (0.68–1.27) | 0.82 (0.51–1.30) | 0.50 |
| *p,p’*-DDE4 | 0.79 (0.64–0.98) |  | 0.67 (0.46–0.99) | 0.92 (0.66–1.29) | 0.82 (0.50–1.33) | 0.49 |
| *p,p’*-DDT1 | 0.86 (0.70–1.05) |  | 0.83 (0.61–1.12) | 1.00 (0.70–1.41) | 0.73 (0.39–1.36) | 0.56 |
| *o,p’*-DDT2 | 0.81 (0.64–1.03) |  | 0.77 (0.55–1.08) | 0.93 (0.64–1.35) | 0.74 (0.39–1.40) | 0.67 |
| Chlordane Metabolites2 | 0.92 (0.80–1.07) |  | 0.80 (0.63–1.01) | 0.89 (0.69–1.15) | 1.85 (1.09–3.15) | 0.01 |
| Oxychlordane2 | 0.82 (0.59–1.15) |  | 0.73 (0.44–1.20) | 0.65 (0.34–1.22) | 4.17 (1.12–15.6) | 0.04 |
| *trans-*Nonachlor2 | 0.89 (0.71–1.12) |  | 0.66 (0.45–0.97) | 0.91 (0.62–1.34) | 2.51 (1.10–5.76) | 0.01 |
| *β*-HCCH1 | 0.60 (0.31–1.15) |  | 0.23 (0.07–0.81) | 0.91 (0.43–1.92) | 0.72 (0.15–3.41) | 0.20 |
| HCB1 | 0.77 (0.54–1.08) |  | 0.61 (0.35–1.07) | 0.94 (0.55–1.59) | 0.88 (0.30–2.64) | 0.53 |

Abbreviations: dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), hexachlorocyclohexane (HCCH), hexachlorobenzene (HCB), ca (cases), ctrl (controls)

1 OR reflects 100-unit change

2 OR reflects 10-unit change

3 OR reflects 1-unit change

4 OR reflects 1000-unit change

Table S4. Median and range of all measured polychlorinated biphenyl (PCB) and organochlorine (OC) pesticide analytes by thyroid cancer status, and odds ratios (OR) and 95% confidence intervals (95%CI) for a 1, 10, 100, or 1000 ng/g change in analyte, overall and stratified by birth cohort.

|  | Tertile 1 |  | Tertile 2 vs. 1 |  | Tertile 3 vs. 1 |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Medianng/glipid (range) | Nca | Nctrl |  | Medianng/glipid (range) | Nca | Nctrl | OR (95% CI) |  | Medianng/glipid (range) | Nca | Nctrl | OR (95% CI) | ptrend1 |
| Total PCBs | 720 (200‒922) | 46 | 69 |  | 1058 (925‒1255) | 28 | 68 | 0.60 (0.34‒1.07) |  | 1541 (1261‒4241) | 28 | 68 | 0.49 (0.24‒1.01) | 0.04 |
| Low-chlorinated | 41.7 (13.9‒56.5) | 43 | 72 |  | 70.1 (56.5‒96.9) | 26 | 72 | 0.58 (0.31‒1.10) |  | 142 (97.5‒1262) | 38 | 71 | 0.82 (0.41‒1.65) | 0.92 |
| PCB 28 | 10.6 (3.2‒14.7) | 39 | 72 |  | 19.8 (14.8‒30.1) | 33 | 73 | 0.83 (0.47‒1.48) |  | 58.9 (30.4‒679) | 36 | 71 | 0.94 (0.48‒1.84) | 0.96 |
| PCB 44 | 2.1 (0.5‒3.1) | 39 | 74 |  | 4.4 (3.2‒6.6) | 30 | 70 | 0.78 (0.40‒1.51) |  | 12.2 (6.7‒162) | 39 | 71 | 1.04 (0.54‒1.98) | 0.67 |
| PCB 49 | 1.1 (0.4‒1.80) | 44 | 78 |  | 2.6 (1.9‒3.7) | 29 | 66 | 0.75 (0.40‒1.39) |  | 7.8 (3.9‒106) | 35 | 71 | 0.84 (0.45‒1.59) | 0.72 |
| PCB 52 | 3.2 (0.6‒5) | 31 | 72 |  | 7 (5.1‒9.7) | 40 | 72 | 1.39 (0.73‒2.63) |  | 15.7 (9.9‒162) | 36 | 71 | 1.23 (0.63‒2.42) | 0.73 |
| PCB 66 | 4.4 (0.4‒6.8) | 47 | 73 |  | 9.1 (6.9‒11.3) | 27 | 72 | 0.49 (0.25‒0.95) |  | 17.3 (11.4‒91.6) | 34 | 71 | 0.57 (0.27‒1.22) | 0.23 |
| PCB 74 | 14.4 (1.2‒19.5) | 47 | 72 |  | 23.4 (19.6‒30.9) | 31 | 73 | 0.50 (0.26‒0.98) |  | 40 (31.1‒94.3) | 30 | 71 | 0.43 (0.19‒0.95) | 0.07 |
| Moderately-chlorinated | 606 (162‒739) | 41 | 69 |  | 882 (740‒1053) | 34 | 69 | 0.79 (0.44‒1.41) |  | 1321 (1061‒3901) | 29 | 68 | 0.58 (0.28‒1.20) | 0.14 |
| PCB 87 | 1.9 (0.2‒2.8) | 42 | 77 |  | 3.7 (2.9‒4.6) | 43 | 71 | 0.96 (0.49‒1.86) |  | 6.5 (4.7‒50.7) | 23 | 68 | 0.51 (0.23‒1.10) | 0.05 |
| PCB 99 | 19.5 (3‒26.3) | 45 | 72 |  | 33.4 (26.6‒42.1) | 41 | 73 | 0.66 (0.34‒1.26) |  | 53.6 (42.3‒162) | 22 | 71 | 0.31 (0.14‒0.70) | 0.00 |
| PCB 101 | 3.7 (0.7‒6.1) | 39 | 73 |  | 7.9 (6.2‒10.3) | 35 | 73 | 0.84 (0.42‒1.65) |  | 14.3 (10.4‒86.2) | 34 | 70 | 0.83 (0.39‒1.77) | 0.69 |
| PCB 105 | 9.2 (0.4‒12.8) | 44 | 72 |  | 16.2 (13‒19.3) | 32 | 73 | 0.61 (0.32‒1.17) |  | 26 (19.6‒65.7) | 32 | 71 | 0.60 (0.30‒1.22) | 0.21 |
| PCB 110 | 1.8 (0.3‒2.7) | 40 | 75 |  | 3.6 (2.8‒4.8) | 35 | 71 | 0.87 (0.45‒1.68) |  | 6.8 (4.9‒93.3) | 33 | 70 | 0.82 (0.40‒1.67) | 0.61 |
| PCB 114 | 1.4 (0.2‒2.0) | 52 | 73 |  | 2.5 (2.1‒2.9) | 24 | 70 | 0.40 (0.20‒0.77) |  | 4.1 (3‒11.3) | 28 | 63 | 0.44 (0.21‒0.92) | 0.03 |
| PCB 118 | 40.9 (13.2‒54.6) | 43 | 72 |  | 67.9 (55.7‒77.9) | 33 | 73 | 0.70 (0.38‒1.28) |  | 102 (78.3‒288) | 32 | 71 | 0.66 (0.33‒1.30) | 0.24 |
| PCB 128 | 1.1 (0.2‒2.4) | 39 | 73 |  | 3.7 (2.5‒5) | 42 | 73 | 1.01 (0.49‒2.10) |  | 6.6 (5.1‒28.8) | 27 | 70 | 0.64 (0.30‒1.37) | 0.18 |
| PCB 138/158 | 121 (31.7‒150) | 37 | 75 |  | 187 (151‒220) | 38 | 70 | 1.08 (0.61‒1.89) |  | 277 (221‒827) | 33 | 71 | 0.90 (0.45‒1.82) | 0.78 |
| PCB 146 | 18.9 (4.7‒23.6) | 46 | 72 |  | 28.9 (23.8‒34.6) | 31 | 75 | 0.62 (0.35‒1.09) |  | 43.3 (34.7‒169) | 31 | 69 | 0.61 (0.31‒1.21) | 0.16 |
| PCB 149 | 1.8 (0.2‒3.1) | 41 | 75 |  | 4 (3.2‒5) | 33 | 71 | 0.78 (0.39‒1.53) |  | 6.8 (5.1‒38.4) | 34 | 70 | 0.80 (0.40‒1.63) | 0.62 |
| PCB 151 | 2 (0.2‒3.5) | 50 | 74 |  | 4.4 (3.6‒5.5) | 19 | 71 | 0.27 (0.13‒0.59) |  | 7.4 (5.6‒25.8) | 39 | 71 | 0.66 (0.32‒1.37) | 0.36 |
| PCB 153 | 149 (38.7‒184) | 43 | 73 |  | 217 (185‒253) | 32 | 72 | 0.75 (0.43‒1.30) |  | 323 (254‒1120) | 33 | 71 | 0.73 (0.38‒1.43) | 0.34 |
| PCB 156 | 13.8 (4.2‒17.7) | 46 | 72 |  | 21.2 (17.8‒25) | 32 | 73 | 0.67 (0.38‒1.17) |  | 32.8 (25.1‒96.1) | 30 | 71 | 0.60 (0.32‒1.14) | 0.12 |
| PCB 157 | 3 (0.2‒3.9) | 41 | 73 |  | 4.8 (4‒5.5) | 36 | 73 | 0.86 (0.50‒1.50) |  | 7.3 (5.6‒24) | 31 | 70 | 0.73 (0.38‒1.41) | 0.36 |
| PCB 167 | 6 (0.3‒8.1) | 41 | 72 |  | 9.5 (8.2‒11.2) | 35 | 74 | 0.81 (0.46‒1.43) |  | 13.7 (11.3‒38) | 32 | 70 | 0.77 (0.41‒1.43) | 0.41 |
| PCB 170 | 38.9 (11.4‒50.2) | 48 | 72 |  | 57 (50.4‒66.1) | 29 | 73 | 0.59 (0.33‒1.03) |  | 86.3 (66.3‒217) | 31 | 71 | 0.58 (0.30‒1.11) | 0.11 |
| PCB 172 | 5 (0.2‒6.3) | 46 | 72 |  | 7.4 (6.4‒8.9) | 30 | 75 | 0.63 (0.36‒1.10) |  | 11.4 (9‒35.7) | 32 | 69 | 0.69 (0.37‒1.31) | 0.26 |
| PCB 177 | 8.3 (2.0‒10.7) | 44 | 75 |  | 13 (10.8‒15.4) | 30 | 70 | 0.68 (0.37‒1.26) |  | 19.3 (15.5‒43.4) | 34 | 71 | 0.74 (0.38‒1.44) | 0.42 |
| PCB 178 | 6.1 (0.6‒7.9) | 40 | 74 |  | 9.4 (8‒11.4) | 39 | 71 | 1.00 (0.60‒1.69) |  | 14.3 (11.6‒40.7) | 29 | 71 | 0.69 (0.36‒1.32) | 0.28 |
| PCB 180 | 85.6 (23.5‒110) | 49 | 75 |  | 127 (111‒148) | 26 | 70 | 0.58 (0.33‒1.02) |  | 186 (149‒570) | 33 | 71 | 0.66 (0.35‒1.25) | 0.18 |
| PCB 183 | 12.7 (2.7‒16.4) | 40 | 72 |  | 20 (16.5‒23.6) | 34 | 74 | 0.81 (0.45‒1.45) |  | 29.1 (23.7‒77.2) | 34 | 70 | 0.83 (0.42‒1.64) | 0.58 |
| PCB 187 | 27.9 (5.9‒35.8) | 38 | 72 |  | 44.1 (35.9‒53) | 39 | 73 | 1.00 (0.58‒1.71) |  | 64.9 (53.1‒204) | 31 | 71 | 0.76 (0.38‒1.49) | 0.44 |
| PCB 189 | 1.6 (0.2‒2.1) | 45 | 73 |  | 2.6 (2.2‒3.1) | 31 | 73 | 0.66 (0.36‒1.18) |  | 3.9 (3.2‒11.7) | 32 | 70 | 0.68 (0.36‒1.28) | 0.25 |
| Highly-chlorinated | 46.5 (10.4‒59.4) | 48 | 72 |  | 72.1 (59.8‒84.2) | 32 | 73 | 0.65 (0.38‒1.12) |  | 105 (84.3‒275) | 27 | 71 | 0.53 (0.28‒1.01) | 0.05 |
| PCB 194 | 10.9 (0.5‒13.9) | 46 | 73 |  | 16.7 (14‒20.2) | 32 | 72 | 0.71 (0.42‒1.22) |  | 25.6 (20.3‒75.9) | 30 | 71 | 0.62 (0.33‒1.17) | 0.14 |
| PCB 195 | 3.2 (0.2‒4.0) | 45 | 72 |  | 4.8 (4.1‒5.6) | 35 | 77 | 0.71 (0.41‒1.22) |  | 7.4 (5.7‒18.3) | 28 | 67 | 0.60 (0.31‒1.16) | 0.14 |
| PCB 196/203 | 13.2 (3.4‒16.8) | 47 | 74 |  | 20.1 (16.9‒23.1) | 35 | 72 | 0.74 (0.43‒1.26) |  | 29.9 (23.2‒74.5) | 26 | 70 | 0.51 (0.26‒0.99) | 0.04 |
| PCB 199 | 10.9 (2.3‒14.3) | 47 | 72 |  | 18.2 (14.7‒20.9) | 35 | 73 | 0.69 (0.39‒1.20) |  | 27.1 (21‒77.6) | 26 | 71 | 0.48 (0.25‒0.93) | 0.03 |
| PCB 206 | 4.2 (0.2‒5.2) | 44 | 72 |  | 6.3 (5.3‒7.7) | 38 | 74 | 0.79 (0.45‒1.39) |  | 10.4 (7.9‒29.1) | 25 | 70 | 0.53 (0.27‒1.03) | 0.06 |
| PCB 209 | 3.4 (0.4‒4.3) | 35 | 72 |  | 5.4 (4.4‒6.6) | 45 | 75 | 1.21 (0.68‒2.15) |  | 8.6 (6.7‒30.9) | 28 | 69 | 0.78 (0.39‒1.56) | 0.44 |
| Thyroid-like | 120 (34.6‒155) | 40 | 69 |  | 190 (156‒241) | 37 | 68 | 0.80 (0.41‒1.57) |  | 314 (241‒1064) | 26 | 68 | 0.42 (0.18‒0.97) | 0.04 |
| Dioxin-like | 80.7 (28.7‒101) | 44 | 68 |  | 124 (102‒144) | 27 | 71 | 0.54 (0.29‒1.01) |  | 182 (144‒506) | 33 | 67 | 0.62 (0.31‒1.25) | 0.21 |
| Wolff 1 | 55.1 (14.6‒72.1) | 46 | 71 |  | 86.3 (72.1‒99.3) | 28 | 73 | 0.55 (0.30‒1.02) |  | 135 (99.8‒511) | 33 | 71 | 0.62 (0.32‒1.20) | 0.19 |
| Wolff 1A | 6.3 (1.8‒9.8) | 33 | 72 |  | 13.3 (9.9‒19.8) | 36 | 72 | 1.17 (0.62‒2.22) |  | 34.2 (20‒423) | 38 | 71 | 1.23 (0.64‒2.39) | 0.59 |
| Wolff 1B | 44.2 (8.9‒55.3) | 44 | 72 |  | 67.3 (55.4‒79.7) | 33 | 73 | 0.74 (0.43‒1.27) |  | 96.8 (80.2‒265) | 31 | 71 | 0.64 (0.33‒1.26) | 0.18 |
| Wolff 2 | 264.9 (78‒323) | 45 | 71 |  | 399 (325‒473) | 33 | 74 | 0.64 (0.35‒1.15) |  | 588 (475‒1567) | 30 | 71 | 0.55 (0.28‒1.11) | 0.10 |
| Wolff 2A | 95.5 (34.2‒123) | 45 | 72 |  | 150 (123.6‒176) | 31 | 73 | 0.60 (0.32‒1.12) |  | 224 (177‒592) | 32 | 71 | 0.58 (0.28‒1.19) | 0.16 |
| Wolff 2B | 163 (43.8‒205) | 41 | 72 |  | 246 (205‒294) | 36 | 73 | 0.83 (0.47‒1.46) |  | 372 (294‒1070) | 31 | 71 | 0.68 (0.34‒1.36) | 0.27 |
| Wolff 3 | 267 (71‒339) | 43 | 72 |  | 394 (340‒462) | 34 | 73 | 0.77 (0.45‒1.33) |  | 592 (465‒1858) | 31 | 71 | 0.65 (0.33‒1.28) | 0.20 |
| OC Insecticides | 896 (103‒1438) | 46 | 70 |  | 1890 (1453‒2377) | 23 | 69 | 0.42 (0.21‒0.85) |  | 3317 (2379‒11562) | 35 | 69 | 0.60 (0.29‒1.22) | 0.34 |
| DDT Metabolites | 877 (93‒1383) | 46 | 70 |  | 1846 (1408‒2331) | 23 | 70 | 0.42 (0.21‒0.84) |  | 3253 (2338‒11511) | 35 | 69 | 0.62 (0.31‒1.25) | 0.39 |
| *p,p’*-DDE | 770 (67.6‒1210) | 44 | 70 |  | 1630 (1220‒2110) | 31 | 70 | 0.59 (0.31‒1.13) |  | 3020 (2120‒10800) | 29 | 69 | 0.52 (0.25‒1.07) | 0.11 |
| *p,p’*-DDT | 73 (10.8‒135) | 45 | 72 |  | 196 (138‒268) | 28 | 73 | 0.46 (0.22‒0.97) |  | 368 (269‒1450) | 35 | 71 | 0.56 (0.25‒1.24) | 0.32 |
| *o,p’*-DDT | 3.8 (2.0‒8.3) | 44 | 72 |  | 12.8 (8.4‒19.5) | 32 | 73 | 0.51 (0.24‒1.07) |  | 26.2 (19.7‒115) | 32 | 71 | 0.47 (0.20‒1.10) | 0.15 |
| Chlordane Metabolites | 18.4 (4.1‒23.4) | 36 | 72 |  | 31 (23.5‒40.4) | 44 | 72 | 1.22 (0.63‒2.35) |  | 55.5 (40.4‒169) | 28 | 71 | 0.73 (0.35‒1.55) | 0.27 |
| Oxychlordane | 6.8 (2.0‒9.8) | 35 | 72 |  | 12.3 (9.9‒16.6) | 45 | 73 | 1.23 (0.66‒2.32) |  | 23 (16.8‒71.6) | 28 | 70 | 0.74 (0.35‒1.59) | 0.30 |
| *trans-*Nonachlor | 10.2 (2.1‒13.6) | 33 | 74 |  | 18.4 (13.7‒24.2) | 49 | 72 | 1.61 (0.84‒3.06) |  | 35 (24.4‒97) | 26 | 70 | 0.81 (0.38‒1.74) | 0.32 |
| *β*-HCCH | 43.5 (1.8‒61.2) | 45 | 73 |  | 75 (61.3‒91.6) | 39 | 70 | 0.83 (0.45‒1.50) |  | 117 (91.8‒3320) | 22 | 71 | 0.35 (0.16‒0.76) | 0.01 |
| HCB | 96.3 (11.1‒144) | 42 | 72 |  | 192 (145‒226) | 37 | 71 | 0.72 (0.37‒1.40) |  | 298 (229‒2250) | 27 | 71 | 0.47 (0.21‒1.05) | 0.06 |

Abbreviations: dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), hexachlorocyclohexane (HCCH), hexachlorobenzene (HCB), ca (cases), ctrl (controls)

1Wald test