

Supplemental Materials, Table S1. Effect estimates (ORs and 95% CI) for ambient residential or workplace exposure to diazinon, chlorpyrifos and parathion and Parkinson's disease by  $PONI_{L55M}$  and  $PONI_{Q192R}$  genotype, Caucasians only and models also adjusted for household OP used

Exposure	$PONI_{-55}$ LL+LM		$PONI_{-55}$ MM			
	No. cases/controls	Adjusted OR (95% CI) <sup>a</sup>	No. cases/controls	Adjusted OR (95% CI) <sup>a</sup>		
<b>Ambient Residential or Workplace Exposure<sup>b</sup></b>						
<b><i>Diazinon</i></b>						
Zero Exposure	61/121	1.00	6/16	1.00 (0.36-2.77)		
Low/High Exposure	156/231	1.17 (0.77-1.77)	28/28	1.75 (0.92-3.33)		
<b><i>Chlorpyrifos</i></b>						
Zero Exposure	61/121	1.00	6/16	0.97 (0.35-2.68)		
Low/High Exposure	134/188	1.35 (0.89-2.07)	26/21	2.30 (1.16-4.57)		
<b><i>Parathion</i></b>						
Zero Exposure	61/121	1.00	6/16	0.99 (0.36-2.76)		
Low/High Exposure	134/194	1.15 (0.74-1.77)	22/21	1.65 (0.81-3.36)		
Exposure	$PONI_{-192}$ RR+QR		$PONI_{-192}$ QQ			
	No. cases/controls	Adjusted OR (95% CI) <sup>a</sup>	No. cases/controls	Adjusted OR (95% CI) <sup>a</sup>		
<b>Ambient Residential or Workplace Exposure<sup>b</sup></b>						
<b><i>Diazinon</i></b>						
Zero Exposure	33/69	1.00	32/59	1.23 (0.67-2.28)		
Low/High Exposure	89/124	1.34 (0.78-2.30)	91/107	1.53 (0.89-2.63)		
<b><i>Chlorpyrifos</i></b>						
Zero Exposure	33/69	1.00	32/59	1.21 (0.65-2.23)		
Low/High Exposure	73/100	1.49 (0.86-2.60)	83/82	1.91 (1.11-3.32)		
<b><i>Parathion</i></b>						
Zero Exposure	33/69	1.00	32/59	1.24 (0.67-2.29)		
Low/High Exposure	77/109	1.33 (0.76-2.32)	77/82	1.61 (0.91-2.83)		
Exposure	$PONI_{55LL-192RR}$		$PONI_{55LM-192OR}$		$PONI_{55MM-192OO}$	
	No. cases/controls	Adjusted OR (95% CI) <sup>a</sup>	No. cases/controls	Adjusted OR (95% CI) <sup>a</sup>	No. cases/controls	Adjusted OR (95% CI) <sup>a</sup>
<b>Ambient Residential or Workplace Exposure<sup>b</sup></b>						
<b><i>Diazinon</i></b>						
Zero Exposure	6/14	1.0	53/100	1.18 (0.41-3.37)	6/14	1.26 (0.31-5.10)
Low/High Exposure	19/33	1.10 (0.34-3.52)	133/175	1.46 (0.52-4.09)	28/23	2.35 (0.74-7.42)
<b><i>Chlorpyrifos</i></b>						
Zero Exposure	6/14	1.0	53/100	1.18 (0.41-3.35)	6/14	1.20 (0.30-4.85)
Low/High Exposure	15/28	1.16 (0.35-3.84)	115/137	1.73 (0.62-4.84)	26/17	3.10 (0.95-10.08)
<b><i>Parathion</i></b>						
Zero Exposure	6/14	1.0	53/100	1.18 (0.41-3.38)	6/14	1.25 (0.31-5.08)
Low/High Exposure	15/29	0.99 (0.30-3.30)	117/146	1.51 (0.53-4.27)	22/16	2.40 (0.72-8.03)

<sup>a</sup> adjusted for age, gender, smoking status, county, education level, and household OP used

<sup>b</sup> reference group of participants is for those unexposed to all three OPs

Supplemental Materials, Table S2. Log likelihood for models including only *PONI*<sub>L55M</sub> or *PONI*<sub>Q192R</sub> genotype or both in the same model

<b>Models<sup>b</sup></b>	<b>Exposures<sup>a</sup></b>		
	<b>diazinon</b>	<b>chlorpyrifos</b>	<b>parathion</b>
Model 1: Exposure+ <i>PONI</i> <sub>L55M</sub> + <i>PONI</i> <sub>L55M</sub> *exposure			
Log Likelihood	-445.5	-443.2	-445.2
Model2: Exposure+ <i>PONI</i> <sub>Q192R</sub> + <i>PONI</i> <sub>Q192R</sub> *exposure			
Log Likelihood	-446.3	-444.4	-446.1
Model 3: Exposure+ <i>PONI</i> <sub>L55M</sub> + <i>PONI</i> <sub>L55M</sub> *exposure + <i>PONI</i> <sub>Q192R</sub> + <i>PONI</i> <sub>Q192R</sub> *exposure			
Log Likelihood	-444.9	-442.9	-444.9

<sup>a</sup> ambient residential or workplace exposure to diazinon, chlorpyrifos, and parathion

<sup>b</sup> the coding for *PONI*<sub>L55M</sub>: LL+LM and MM; for *PONI*<sub>Q192R</sub>: RR+QR and QQ

Supplemental Materials, Table S3. Effect estimates (ORs and 95% CI), for ambient residential exposure to diazinon, chlorpyrifos and parathion and Parkinson's disease by *PONI*<sub>L55M</sub> genotype (for comparison with Manthripragada et al. 2010), all races/ethnicities

Exposure	<i>PONI-55 LL+LM</i>			<i>PONI-55 MM</i>		
	No. cases/controls	Crude OR	Adjusted OR (95% CI) <sup>a</sup>	No. cases/controls	Crude OR	Adjusted OR (95% CI) <sup>a</sup>
<b>Ambient Residential Only Exposure</b>						
<b><i>Diazinon</i></b>						
Zero Exposure	93/174	1.00	1.00	11/23	0.89	1.02 (0.46-2.25)
Low/High Exposure	169/224	1.41	1.30 (0.90-1.87)	30/25	2.25	2.08 (1.11-3.92)
<b><i>Chlorpyrifos</i></b>						
Zero Exposure	93/174	1.00	1.00	11/23	0.89	1.05 (0.48-2.31)
Low/High Exposure	152/181	1.57	1.45 (1.00-2.11)	25/21	2.23	2.09 (1.07-4.10)
<b><i>Parathion</i></b>						
Zero Exposure	93/174	1.00	1.00	11/23	0.89	1.07 (0.48-2.38)
Low/High Exposure	141/198	1.33	1.08 (0.74-1.59)	20/20	1.87	1.36 (0.65-2.81)

<sup>a</sup> adjusted for age, gender, race, smoking status, county, and education level

Supplemental Materials, Table S4. Effect estimates (ORs and 95% CI) for ambient residential or workplace exposure to diazinon, chlorpyrifos and parathion and Parkinson's disease by *PONI*<sub>C-108T</sub> genotype, Caucasians only

Exposure	<i>PONI -108 CC</i>			<i>PONI -108 CT</i>			<i>PONI -108 TT</i>		
	No. cases/controls	Crude OR	Adjusted OR (95% CI) <sup>a</sup>	No. cases/controls	Crude OR	Adjusted OR (95% CI) <sup>a</sup>	No. cases/controls	Crude OR	Adjusted OR (95% CI) <sup>a</sup>
<b>Ambient Residential or Workplace Exposure</b>									
<i>Diazinon</i>									
Zero Exposure	21/28	1.00	1.00	30/69	0.74	0.77 (0.49-1.20)	13/30	0.55	0.59 (0.24-1.45)
Low/High Exposure	46/69	0.97	0.86 (0.45-1.62)	76/104	1.15	1.01 (0.57-1.81)	49/52	1.36	1.20 (0.63-2.28)
<i>Chlorpyrifos</i>									
Zero Exposure	21/28	1.00	1.00	30/69	0.74	0.76 (0.48-1.19)	13/30	0.55	0.58 (0.23-1.42)
Low/High Exposure	44/46	1.32	1.25 (0.65-2.41)	68/90	1.25	1.19 (0.66-2.13)	37/42	1.20	1.13 (0.58-2.20)
<i>Parathion</i>									
Zero Exposure	21/28	1.00	1.00	30/69	0.74	0.76 (0.48-1.20)	13/30	0.55	0.58 (0.23-1.43)
Low/High Exposure	36/51	1.02	0.89 (0.45-1.73)	68/90	1.18	1.04 (0.57-1.88)	41/44	1.35	1.21 (0.62-2.36)

<sup>a</sup> adjusted for age, gender, smoking status, county, and education level