Appendix C: Results from all sub-analyses

Benzene

Model	Covariates	OR (1-	95% CI
		unit	
ED /DD E	/N. T. A. D.	increase)	
	ver/Never Exposure to Benzene	_	
Model-01	Age	0.57	0.03-2.96
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	0.65	0.03-3.45
Model-08	Age + family history + oral contraceptive use + education + NO2 land use regression	0.58	0.03-3.04
Model-10	Age + chlorinated alkanes + oral contraceptive use + family history + education	0.60	0.03-3.13
ER-/PR+: F	ver/Never Exposure to Benzene	•	1
No exposed	cases.		
ER+/PR-: E	ver/Never Exposure to Benzene		
Model-01	Age	1.79	0.4-5.84
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.13	0.46-7.35
Model-08	Age + family history + oral contraceptive use + education + NO2 land use regression	2.22	0.49-7.41
Model-10	Age + chlorinated alkanes + oral contraceptive use + family history + education	2.06	0.44-7.07
ER+/PR+: 1	Ever/Never Exposure to Benzene		1
Model-01	Age	1.38	0.63-3.09
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.41	0.63-3.21
Model-08	Age + family history + oral contraceptive use + education + NO2 land use regression	1.3	0.58-2.96
Model-10	Age + chlorinated alkanes + oral contraceptive use + family history + education	1.3	0.57-2.96

Model	Covariates	OR (1-	95% CI
		unit	
T . 1.4		increase)	
	ER positive and/or PR positive/HER-2 negative: Ever/Never Exposure to Benzene	T	T
Model-01	Age	1.31	0.6-2.94
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.46	0.65-3.34
Model-08	Age + family history + oral contraceptive use + education + NO2 land use regression	1.31	0.58-2.96
Model-10	Age + chlorinated alkanes + oral contraceptive use + family history + education	1.29	0.57-2.95
Luminal B:	ER positive and/or PR positive/HER-2 positive: Ever/Never Exposure to Benzene		
Model-01	Age	2.85	0.63-9.45
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	3.41	0.72-12.03
Model-08	Age + family history + oral contraceptive use + education + NO2 land use regression	3.04	0.67-10.2
Model-10	Age + chlorinated alkanes + oral contraceptive use + family history + education	3.06	0.66-10.38
HER2 Over	rexpressed: ER negative/PR negative/HER-2 positive	•	•
No exposed	cases.		
Triple Nega	ntive: ER negative/PR negative/HER-2 negative: Ever/Never Exposure to Benzene		
Model-01	Age	0.84	0.05-4.4
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	0.89	0.05-4.88
Model-08	Age + family history + oral contraceptive use + education + NO2 land use regression	0.83	0.04-4.42
Model-10	Age + chlorinated alkanes + oral contraceptive use + family history + education	0.84	0.05-4.52
Benzene du	ration of exposure lagged 5 years before interview		
Model-01	Age	1.04	0.98-1.13

Model	Covariates	OR (1-	95% CI
		unit	
		increase)	
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-	1.04	0.98-1.13
	term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement		
	therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index		
	from 1 year prior		
Model-08	Age + family history + oral contraceptive use + education + NO2 land use regression	1.04	0.97-1.12
Model-10	Age + chlorinated alkanes + oral contraceptive use + family history + education	1.04	0.97-1.13
Benzene dui	ration of exposure before 36 years of age		
Model-01	Age	1.17	0.98-1.51
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.17	0.98-1.51
Model-08	Age + family history + oral contraceptive use + education + NO2 land use regression	1.17	0.98-1.51
Model-10	Age + chlorinated alkanes + oral contraceptive use + family history + education	1.17	0.97-1.51

Toluene:

Model	Covariates	OR (1-	95% CI
		unit	
		increase)	
ER-/PR-:]	Ever/Never Exposure to Toluene		
Model-01	Age	0.93	0.15-3.4
Model-02	Model-01+ education	0.91	0.14-3.36
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.14	0.17-4.25
Model-08	Age	0.93	0.15-3.4
Model-10	Age + Chlorinated Alkanes	0.95	0.15-3.45
ER-/PR+	No exposed cases.		

Model	Covariates	OR (1-	95% CI
		unit increase)	
ER+/PR-:	Ever/Never Exposure to Toluene	mercuse)	
Model-01	Age	4.2	1.63-10.12
Model-02	Model-01+ education	4.34	1.67-10.56
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	4.98	1.84-12.78
Model-08	Age	4.2	1.63-10.12
Model-10	Age + Chlorinated Alkanes	3.57	1.32-8.88
ER+/PR+:	Ever/Never Exposure to Toluene		
Model-01	Age	2	1.04-3.97
Model-02	Model-01+ education	1.93	1.00-3.85
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.03	1.04-4.09
Model-08	Age	2	1.04-3.97
Model-10	Age + Chlorinated Alkanes	1.92	0.99-3.81
Luminal A	: ER positive and/or PR positive/HER-2 negative: Ever/Never Exposure to Toluene	I	
Model-01	Age	2.31	1.23-4.49
Model-02	Model-01+ education	2.25	1.20-4.41
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.43	1.27-4.81
Model-08	Age	2.31	1.23-4.49
Model-10	Age + Chlorinated Alkanes	2.14	1.13-4.2
Luminal B	: ER positive and/or PR positive/HER-2 positive: Ever/Never Exposure to Toluene	•	

Model	Covariates	OR (1-	95% CI
		unit	
Model 01	A co	increase)	0.86-9.1
Model-01	Age		
Model-02	Model-01+ education	3.12	0.85-9.18
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	3.6	0.95-11.14
Model-08	Age	3.12	0.86-9.1
Model-10	Age + Chlorinated Alkanes	3.04	0.83-8.93
HER2 Ove	rexpressed: ER negative/PR negative/HER-2 positive: Ever/Never Exposure to Toluene	1	•
Model-01	Age	1.47	0.08-7.75
Model-02	Model-01+ education	1.47	0.08-7.77
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.78	0.09-10.83
Model-08	Age	1.47	0.08-7.75
Model-10	Age + Chlorinated Alkanes	1.51	0.08-8.01
Triple Neg	ative: ER negative/PR negative/HER-2 negative: Ever/Never Exposure to Toluene	L	I
Model-01	Age	0.68	0.04-3.47
Model-02	Model-01+ education	0.67	0.04-3.48
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	0.82	0.04-4.37
Model-08	Age	0.68	0.04-3.47
Model-10	Age + Chlorinated Alkanes	0.69	0.04-3.5
ER-/PR-:	Average cumulative concentration Exposure to Toluene (coded 1, 2, 3)	•	•
Model-01	Age	1.05	0.29-2.48

Model	Covariates	OR (1-	95% CI
		unit increase)	
Model-02	Model-01+ education	1.02	0.29-2.4
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.19	0.33-2.85
Model-08	Age	1.05	0.29-2.48
Model-10	Age + Chlorinated Alkanes	1.06	0.3-2.5
ER-/PR+	No exposed cases.		
ER+/PR-:	Average cumulative concentration Exposure to Toluene (coded 1, 2, 3)		
Model-01	Age	2.5	1.26-4.76
Model-02	Model-01+ education	2.43	1.22-4.68
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.65	1.3-5.24
Model-08	Age	2.5	1.26-4.76
Model-10	Age + Chlorinated Alkanes	2.2	1.05-4.3
ER+/PR+:	Average cumulative concentration of exposure to Toluene (coded 1, 2, 3)		l .
Model-01	Age	1.6	1-2.65
Model-02	Model-01+ education	1.55	0.96-2.58
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.55	0.95-2.62
Model-08	Age	1.6	1-2.65
Model-10	Age + Chlorinated Alkanes	1.57	0.98-2.6
Luminal A	: ER positive and/or PR positive/HER-2 negative: Average cumulative concentration of exposure to Toluen	e (coded 1,	2, 3)
Model-01	Age	1.75	1.1-2.89

Model	Covariates	OR (1-	95% CI
		unit	
		increase)	
Model-02	Model-01+ education	1.7	1.06-2.83
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.72	1.06-2.92
Model-08	Age	1.75	1.1-2.89
Model-10	Age + Chlorinated Alkanes	1.66	1.03-2.75
Luminal B	: ER positive and/or PR positive/HER-2 positive: Average cumulative concentration of exposure to Toluene	(coded 1, 2	2, 3)
Model-01	Age	2.25	0.97-4.6
Model-02	Model-01+ education	2.14	0.92-4.41
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.3	0.96-4.92
Model-08	Age	2.25	0.97-4.6
Model-10	Age + Chlorinated Alkanes	2.24	0.96-4.58
ER-/PR-: 1	Duration of Exposure to Toluene		
Model-01	Age	1.02	0.86-1.13
Model-02	Model-01+ education	1.02	0.86-1.13
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	0.87-1.14
Model-08	Age	1.02	0.86-1.13
Model-10	Age + Chlorinated Alkanes	1.02	0.86-1.13
ER-/PR+	No exposed cases.		
ER+/PR-:	Duration of Exposure to Toluene	1	
Model-01	Age	1.09	1.02-1.18

Model	Covariates	OR (1-	95% CI
		unit	
Model-02	Model-01+ education	increase)	1.03-1.19
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.11	1.03-1.2
Model-08	Age	1.09	1.02-1.18
Model-10	Age + Chlorinated Alkanes	1.09	1.02-1.18
ER+/PR+:	Duration of Exposure to Toluene	1	
Model-01	Age	1.07	1.01-1.14
Model-02	Model-01+ education	1.06	1.01-1.14
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.06	1.01-1.14
Model-08	Age	1.07	1.01-1.14
Model-10	Age + Chlorinated Alkanes	1.06	1.01-1.14
Luminal A	: ER positive and/or PR positive/HER-2 negative: Duration of Exposure to Toluene	1	
Model-01	Age	1.08	1.02-1.15
Model-02	Model-01+ education	1.08	1.02-1.15
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.08	1.02-1.15
Model-08	Age	1.08	1.02-1.15
Model-10	Age + Chlorinated Alkanes	1.08	1.02-1.15
Luminal B	: ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Toluene	1	
Model-01	Age	1.06	0.92-1.17
Model-02	Model-01+ education	1.06	0.92-1.18
		1	1

Model	Covariates	OR (1- unit	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	increase) 1.07	0.92-1.18
Model-08	Age	1.06	0.92-1.17
Model-10	Age + Chlorinated Alkanes	1.06	0.92-1.17
ER-/PR-: A	Average Frequency Exposure to Toluene		
Model-01	Age	1.01	0.91-1.08
Model-02	Model-01+ education	1.01	0.9-1.07
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.01	0.91-1.08
Model-08	Age	1.01	0.91-1.08
Model-10	Age + Chlorinated Alkanes	1.01	0.91-1.08
ER-/PR+	No exposed cases.		
ER+/PR-:	Average Frequency Exposure to Toluene		•
Model-01	Age	1.05	0.99-1.11
Model-02	Model-01+ education	1.04	0.98-1.1
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.04	0.98-1.11
Model-08	Age	1.05	0.99-1.11
Model-10	Age + Chlorinated Alkanes	1.04	0.98-1.1
ER+/PR+:	Average Frequency Exposure to Toluene	1	<u> </u>
Model-01	Age	1.04	1-1.08
Model-02	Model-01+ education	1.03	1-1.08

Model	Covariates	OR (1- unit increase)	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.04	1-1.08
Model-08	Age	1.04	1-1.08
Model-10	Age + Chlorinated Alkanes	1.04	1-1.08
Luminal A	: ER positive and/or PR positive/HER-2 negative: Average Frequency Exposure to Toluene	1	
Model-01	Age	1.04	1.01-1.09
Model-02	Model-01+ education	1.04	1-1.08
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.04	1-1.09
Model-08	Age	1.04	1.01-1.09
Model-10	Age + Chlorinated Alkanes	1.04	1-1.08
Luminal B	: ER positive and/or PR positive/HER-2 positive: Average Frequency Exposure to Toluene		
Model-01	Age	1.06	1-1.11
Model-02	Model-01+ education	1.05	1-1.11
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.05	0.99-1.11
Model-08	Age	1.06	1-1.11
Model-10	Age + Chlorinated Alkanes	1.06	1-1.11
Duration I	Exposure to Toluene lagged 5 years before interview	1	
Model-01	Age	1.08	1.02-1.16
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement	1.08	1.02-1.16

Model	Covariates	OR (1-	95% CI
		unit increase)	
	therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	merease)	
Model-08	Age	1.08	1.02-1.16
Model-10	Age + Chlorinated Alkanes	1.08	1.02-1.16
Duration I	Exposure to Toluene before 36 years of age	I	
Model-01	Age	1.22	1.04-1.52
Model-02	Model-01+ education	1.21	1.03-1.51
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.22	1.04-1.53
Model-08	Age	1.22	1.04-1.52
Model-10	Age + Chlorinated Alkanes	1.22	1.04-1.52
Average cu	imulative concentration Exposure to Toluene before 36 years of age	I	
Model-01	Age	1.43	0.84-2.58
Model-02	Model-01+ education	1.39	0.81-2.53
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.42	0.82-2.61
Model-08	Age	1.43	0.84-2.58
Model-10	Age + Chlorinated Alkanes	1.42	0.83-2.55

Xylene:

Model	Covariates	OR (1-unit increase)	95% CI		
ER-/PR-: E	ER-/PR-: Ever/Never exposure to xylene				
Model-01	Age	0.53	0.03-2.73		
Model-02	Model-01+ education	0.5	0.03-2.59		

Model	Covariates	OR (1-unit increase)	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	0.6	0.03-3.17
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	0.53	0.03-2.76
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	0.51	0.03-2.69
ER-/PR+: F	Ever/Never exposure to xylene		
No exposed	cases.		
ER+/PR-: F	Ever/Never exposure to xylene		
Model-01	Age	2.31	0.64-6.78
Model-02	Model-01+ education	2.31	0.63-6.80
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.38	0.62-7.48
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	2.73	0.74-8.17
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	2.74	0.74-8.22
ER+/PR+: I	Ever/Never exposure to xylene		-1
Model-01	Age	1.75	0.85-3.71
Model-02	Model-01+ education	1.6	0.77-3.42
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.71	0.81-3.69
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	1.7	0.81-3.64
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	1.7	0.82-3.63
Luminal A:	ER positive and/or PR positive/HER-2 negative: Ever/Never exposure to xylene	l.	
Model-01	Age	1.95	0.97-4.07
Model-02	Model-01+ education	1.81	0.90-3.79

Model	Covariates	OR (1-unit increase)	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.91	0.93-4.07
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	1.93	0.95-4.07
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	1.93	0.95-4.05
Luminal B:	ER positive and/or PR positive/HER-2 positive: Ever/Never exposure to xylene	J	1
Model-01	Age	1.7	0.26-6.46
Model-02	Model-01+ education	1.62	0.25-6.15
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.77	0.26-7.1
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	1.86	0.28-7.17
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	1.89	0.29-7.3
HER2 Over	expressed: ER negative/PR negative/HER-2 positive: Ever/Never exposure to xylene		
No exposed	cases.		
Triple Nega	tive: ER negative/PR negative/HER-2 negative: Ever/Never exposure to xylene		
Model-01	Age	0.78	0.04-4.06
Model-02	Model-01+ education	0.72	0.04-3.80
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	0.82	0.04-4.48
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	0.75	0.04-3.94
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	0.70	0.04-3.77
ER-/PR-: A	verage cumulative concentration (coded 1, 2, 3) of exposure to xylene		1
Model-01	Age	0.52	0.03-1.84
Model-02	Model-01+ education	0.49	0.03-1.74

Model	Covariates	OR (1-unit increase)	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	0.56	0.04-2.02
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	0.52	0.03-1.82
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	0.5	0.03-1.76
ER-/PR+	No exposed cases.		
ER+/PR-: A	Average cumulative concentration Exposure to xylene (coded 1, 2, 3)	1	1
Model-01	Age	1.62	0.63-3.43
Model-02	Model-01+ education	1.55	0.61-3.3
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.59	0.61-3.5
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	1.78	0.7-3.81
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	1.75	0.69-3.74
ER +/ PR +:	Average cumulative concentration Exposure to Xylene (coded 1, 2, 3)	1	
Model-01	Age	1.45	0.88-2.44
Model-02	Model-01+ education	1.36	0.82-2.31
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.37	0.81-2.37
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	1.4	0.84-2.39
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	1.39	0.83-2.37
Luminal A:	ER positive and/or PR positive/HER-2 negative: Average cumulative concentration exposure to Xylene	(coded 1, 2, 3	3)
Model-01	Age	1.51	0.91-2.57
Model-02	Model-01+ education	1.43	0.86-2.43

Model	Covariates	OR (1-unit increase)	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.42	0.84-2.47
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	1.48	0.88-2.53
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	1.46	0.88-2.5
Luminal B:	ER positive and/or PR positive/HER-2 positive: Average cumulative concentration Exposure to Xylene		1
Model-01	Age	1.74	0.62-3.75
Model-02	Model-01+ education	1.61	0.58-3.49
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.68	0.6-3.78
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	1.79	0.64-3.93
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	1.84	0.66-4.06
Duration of	Exposure to Xylene lagged 5 years before interview		
Model-01	Age	1.04	0.99-1.11
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.04	0.99-1.1
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	1.04	0.99-1.1
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	1.04	0.99-1.1
Duration of	Exposure to Xylene before 36 years of age	J	
Model-01	Age	1.1	0.97-1.3
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.1	0.97-1.3
Model-08	Age + education + oral contraceptive use duration + family history + NO2 land use regression	1.1	0.97-1.3

Model	Covariates	OR (1-unit increase)	95% CI
Model-10	Age + education + age first full term pregnancy + oral contraceptive use duration + family history	1.1	0.97-1.29

MAH:

Model	Covariates	OR (per 1- unit increase)	95% CI
ER-/PR-: E	ver/Never Exposure to MAHs	difft increase)	
Model-01	Age	0.96	0.22-2.87
Model-02	Model-01+ education	0.94	0.22-2.81
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.06	0.24-3.24
Model-08	Age + family history	0.97	0.22-2.88
Model-10	Age + family history + chlorinated alkanes	0.93	0.22-2.8
ER-/PR+	No exposed cases.		
ER+/PR-: I	Ever/Never Exposure to MAHs	1	
Model-01	Age	2.88	1.16-6.51
Model-02	Model-01+ education	2.91	1.17-6.63
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	3.31	1.28-7.91
Model-08	Age + family history	3.12	1.25-7.13
Model-10	Age + family history + chlorinated alkanes	2.61	1-6.19
ER+/PR+:	Ever/Never Exposure to MAHs	1	
Model-01	Age	1.83	1.05-3.24
Model-02	Model-01+ education	1.78	1.02-3.17
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone	1.94	1.1-3.49

Model	Covariates	OR (per 1- unit increase)	95% CI
	replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior		
Model-08	Age + family history	1.95	1.11-3.47
Model-10	Age + family history + chlorinated alkanes	1.74	0.97-3.14
Luminal A:	ER positive and/or PR positive/HER-2 negative: Ever/Never Exposure to MAHs	•	
Model-01	Age	1.97	1.14-3.45
Model-02	Model-01+ education	1.94	1.12-3.41
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	2.11	1.21-3.78
Model-08	Age + family history	2.12	1.23-3.73
Model-10	Age + family history + chlorinated alkanes	1.83	1.03-3.28
Luminal B:	ER positive and/or PR positive/HER-2 positive: Ever/Never Exposure to MAHs	ı	1
Model-01	Age	2.71	0.87-7.01
Model-02	Model-01+ education	2.64	0.85-6.88
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	3.01	0.93-8.24
Model-08	Age + family history	2.91	0.93-7.6
Model-10	Age + family history + chlorinated alkanes	2.87	0.91-7.62
HER2 Over	expressed: ER negative/PR negative/HER-2 positive: Ever/Never Exposure to MAHs	1	
Model-01	Age	1.04	0.06-5.31
Model-02	Model-01+ education	1	
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.29	0.07-7.3

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-08	Age + family history	1.04	0.06-5.34
Model-10	Age + family history + chlorinated alkanes	0.99	0.05-5.13
Triple Nega	tive: ER negative/PR negative/HER-2 negative: Ever/Never Exposure to MAHs		l
Model-01	Age	0.93	0.15-3.3
Model-02: n	ot sufficient number of exposed cases with covariates		l
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	0.96	0.15-3.53
Model-08	Age + family history	0.94	0.15-3.31
Model-10	Age + family history + chlorinated alkanes	0.91	0.14-3.25
ER-/PR-: A	verage cumulative concentration of Exposure to MAHs (coded 1, 2, 3)		l
Model-01	Age	1.2	0.47-2.44
Model-02	Model-01+ education	1.14	0.45-2.32
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.28	0.49-2.67
Model-08	Age + family history	1.2	0.47-2.45
Model-10	Age + family history + chlorinated alkanes	1.17	0.45-2.41
ER-/PR+	No exposed cases.		
ER+/PR-: A	Average cumulative concentration of Exposure to MAHs (coded 1, 2, 3)		
Model-01	Age	2.06	1.05-3.77
Model-02	Model-01+ education	1.99	1.01-3.66
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	2.13	1.06-4.01
Model-08	Age + family history	2.21	1.12-4.05

Model	Covariates	OR (per 1-	95% CI
		unit increase)	
Model-10	Age + family history + chlorinated alkanes	1.89	0.89-3.61
ER+/PR+:	Average cumulative concentration exposure to MAHs (coded 1, 2, 3)		
Model-01	Age	1.58	1.06-2.42
Model-02	Model-01+ education	1.54	1.03-2.37
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.61	1.07-2.49
Model-08	Age + family history	1.66	1.11-2.54
Model-10	Age + family history + chlorinated alkanes	1.49	0.97-2.33
Luminal A	ER positive and/or PR positive/HER-2 negative: Average cumulative concentration of Exposure to MA	Hs (coded 1, 2,	3)
Model-01	Age	1.65	1.11-2.51
Model-02	Model-01+ education	1.61	1.08-2.47
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.68	1.11-2.6
Model-08	Age + family history	1.74	1.16-2.66
Model-10	Age + family history + chlorinated alkanes	1.51	0.98-2.36
Luminal B:	ER positive and/or PR positive/HER-2 positive: Average cumulative concentration Exposure to MAHs	(coded 1, 2, 3)	
Model-01	Age	2.12	0.96-4.12
Model-02	Model-01+ education	2	0.91-3.92
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	2.14	0.95-4.35
Model-08	Age + family history	2.27	1.02-4.45
	Age + family history + chlorinated alkanes	2.26	1.02-4.45

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-01	Age	0.99	0.87-1.07
Model-02	Model-01+ education	0.99	0.87-1.07
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	0.99	0.87-1.08
Model-08	Age + family history	0.99	0.87-1.07
Model-10	Age + family history + chlorinated alkanes	0.99	0.87-1.06
ER-/PR+	No exposed cases.	1	
ER+/PR-: I	Duration of exposure to MAHs		
Model-01	Age	1.06	1-1.11
Model-02	Model-01+ education	1.06	1-1.11
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.07	1.01-1.12
Model-08	Age + family history	1.06	1-1.11
Model-10	Age + family history + chlorinated alkanes	1.06	1-1.11
ER+/PR+:	Duration of exposure to MAHs	1	
Model-01	Age	1.04	1-1.08
Model-02	Model-01+ education	1.04	1-1.08
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.04	1-1.08
Model-08	Age + family history	1.04	1-1.08
Model-10	Age + family history + chlorinated alkanes	1.03	0.99-1.08
Luminal A:	ER positive and/or PR positive/HER-2 negative: Duration of exposure to MAHs	•	•
Model-01	Age	1.04	1.01-1.08

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-02	Model-01+ education	1.04	1.01-1.08
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.05	1.01-1.09
Model-08	Age + family history	1.05	1.01-1.09
Model-10	Age + family history + chlorinated alkanes	1.04	1-1.08
Luminal B:	ER positive and/or PR positive/HER-2 positive: Duration of exposure to MAHs	1	
Model-01	Age	1.05	0.98-1.11
Model-02	Model-01+ education	1.05	0.98-1.12
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.06	0.99-1.12
Model-08	Age + family history	1.05	0.98-1.11
Model-10	Age + family history + chlorinated alkanes	1.05	0.97-1.11
ER-/PR-: A	verage Frequency of exposure to MAHs		
Model-01	Age	1.01	0.94-1.06
Model-02	Model-01+ education	1.01	0.94-1.06
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.01	0.94-1.07
Model-08	Age + family history	1.01	0.94-1.06
Model-10	Age + family history + chlorinated alkanes	1.01	0.94-1.06
ER-/PR+	No exposed cases.		
ER+/PR-: A	Average Frequency of exposure to MAHs	•	
Model-01	Age	1.03	0.98-1.08
Model-02	Model-01+ education	1.03	0.98-1.08

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	0.98-1.08
Model-08	Age + family history	1.04	0.98-1.08
Model-10	Age + family history + chlorinated alkanes	1.03	0.98-1.08
ER+/PR+:	Average Frequency of exposure to MAHs		
Model-01	Age	1.03	1-1.06
Model-02	Model-01+ education	1.03	1-1.06
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	1-1.06
Model-08	Age + family history	1.03	1.01-1.07
Model-10	Age + family history + chlorinated alkanes	1.03	1-1.06
Luminal A:	ER positive and/or PR positive/HER-2 negative: Average Frequency of exposure to MAHs	1	
Model-01	Age	1.03	1-1.07
Model-02	Model-01+ education	1.03	1-1.06
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	1-1.07
Model-08	Age + family history	1.04	1.01-1.07
Model-10	Age + family history + chlorinated alkanes	1.03	1-1.07
Luminal B:	ER positive and/or PR positive/HER-2 positive: Average Frequency of exposure to MAHs		
Model-01	Age	1.04	0.99-1.09
Model-02	Model-01+ education	1.04	0.99-1.08
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone	1.04	0.99-1.09

Model	Covariates	OR (per 1- unit increase)	95% CI
	replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal		
	body mass index from 1 year prior		
Model-08	Age + family history	1.05	0.99-1.09
Model-10	Age + family history + chlorinated alkanes	1.05	0.99-1.09
MAH dura	tion of exposure lagged 5 years before interview	•	
Model-01	Age	1.04	1.01-1.09
Model-02	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.05	1.01-1.09
Model-08	Age + family history	1.05	1.01-1.09
Model-10	Age + family history + chlorinated alkanes	1.04	1-1.09
MAH dura	tion of exposure before 36 years of age	1	·
Model-01	Age	1.08	0.99-1.19
Model-02	Model-01+ education	1.07	0.98-1.19
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.09	1-1.21
Model-08	Age + family history	1.08	0.99-1.2
Model-10	Age + family history + chlorinated alkanes	1.08	0.99-1.19
MAH Aver	age cumulative concentration (coded 1, 2, 3) of exposure before 36 years of age	ı	
Model-01	Age	1.31	0.83-2.12
Model-02	Model-01+ education	1.27	0.8-2.06
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40)+smoking (pack years) +postmenopausal body mass index from 1 year prior	1.34	0.84-2.2
Model-08	Age + family history	1.35	0.86-2.19
Model-10	Age + family history + chlorinated alkanes	1.29	0.81-2.11

Methylene Chloride

Model	Covariates	OR (per 1- unit increase)	95% CI
ER-/PR-: Ev	er/Never Exposure to Methylene Chloride		
Model-01	Age	2.94	0.41-14.02
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	5.37	0.66-31.17
Model-08	Age + family history + total duration of breast feeding + education	3.17	0.43-16.43
Model-10	Age + Chlorinated Alkenes + total duration of breast feeding	7.46	0.7-86.61
ER-/PR+	No exposed cases.		
ER+/PR-: Ev	ver/Never Exposure to Methylene Chloride	1	
Model-01	Age	1.53	0.08-9.78
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.07	0.05-8.89
Model-08	Age + family history + total duration of breast feeding + education	1.24	0.06-8.99
Model-10	Age + Chlorinated Alkenes + total duration of breast feeding	1.47	0.07-13.06
ER+/PR+: E	ver/Never Exposure to Methylene Chloride	1	
Model-01	Age	1.65	0.52-5.63
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.41	0.42-4.99
Model-08	Age + family history + total duration of breast feeding + education	1.56	0.48-5.43
Model-10	Age + Chlorinated Alkenes + total duration of breast feeding	1.2	0.31-4.76
Luminal A:	ER positive and/or PR positive/HER-2 negative: Ever/Never Exposure to Methylene Chloride	•	ı
Model-01	Age	1.79	0.59-6
		1	i .

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.44	0.45-5.03
Model-08	Age + family history + total duration of breast feeding + education	1.7	0.55-5.78
Model-10	Age + Chlorinated Alkenes + total duration of breast feeding	1.38	0.39-5.22
Luminal B: 1	ER positive and/or PR positive/HER-2 positive		
No exposed c	rases.		
HER2 Overe	expressed: ER negative/PR negative/HER-2 positive: Ever/Never Exposure to Methylene Chloride		
Model-01	Age	4.57	0.23-30.76
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	11.03	0.33- 166.54
Model-08	Age + family history + total duration of breast feeding + education	4.06	0.19-32.5
Model-10	Age + Chlorinated Alkenes + total duration of breast feeding	9.14	0.34- 148.45
Triple Negat	ive: ER negative/PR negative/HER-2 negative: Ever/Never Exposure to Methylene Chloride		
Model-01	Age	2.2	0.11-14.03
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior	3.37	0.16-27.71
Model-08	Age + family history + total duration of breast feeding + education	2.3	0.11-16.21
Model-10	Age + Chlorinated Alkenes + total duration of breast feeding	3.91	0.13-74
Methylene C	Chloride exposure duration lagged 5 years before interview	1	I
Model-01	Age	1.02	0.97-1.08
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone	1.01	0.96-1.07

Model	Covariates	OR (per 1-	95% CI
		unit increase)	
	replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years)		
	+postmenopausal body mass index from 1 year prior		
Model-08	Age + family history + total duration of breast feeding + education	1.02	0.97-1.07
Model-10	Age + Chlorinated Alkenes + total duration of breast feeding	1.02	0.96-1.09
Methylene C	hloride duration of exposure before 36 years of age		•
Model-01	Age	1.05	0.96-1.19
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	0.94-1.17
Model-08	Age + family history + total duration of breast feeding + education	1.04	0.95-1.18
Model-10	Age + Chlorinated Alkenes + total duration of breast feeding	1.06	0.94-1.22

Chlorinated Alkanes

Model	Covariates	OR (per 1-	95% CI
		unit increase)	
ER-/PR-: Ev	er/Never Exposure to Chlorinated Alkanes		
Model-01	Age	2.52	0.36-11.24
Model-02	Model-01+ education	2.38	0.34-10.70
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	3.9	0.51-20.49
Model-08	Age + total duration of breast feeding	2.87	0.4-13.39
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	6.94	0.62-82.95
ER-/PR+	No exposed cases.		
ER+/PR-: E	ver/Never Exposure to Chlorinated Alkanes		
Model-01	Age	5.06	1.26-18.34
Model-02	Model-01+ education	4.88	1.21-17.77

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	5.02	1.13-20.49
Model-08	Age + total duration of breast feeding	5.66	1.36-21.77
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	5.93	1.03-40.93
ER+/PR+: F	ver/Never Exposure to Chlorinated Alkanes		•
Model-01	Age	3	1.2-8.52
Model-02	Model-01+ education	3	1.20-8.53
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.93	1.14-8.5
Model-08	Age + total duration of breast feeding	3.11	1.24-8.87
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	2.54	0.84-8.61
Luminal A:	ER positive and/or PR positive/HER-2 negative: Ever/Never Exposure to Chlorinated Alkanes	1	l .
Model-01	Age	3.37	1.39-9.4
Model-02	Model-01+ education	3.37	1.39-9.41
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	3.44	1.38-9.81
Model-08	Age + total duration of breast feeding	3.5	1.44-9.81
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	2.92	1-9.73
Luminal B:	ER positive and/or PR positive/HER-2 positive: Ever/Never Exposure to Chlorinated Alkanes		1
Model-01	Age	2.07	0.11-12.67
Model-02	Model-01+ education	1.96	0.10-12.06
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone	1.82	0.09-13.13

Model	Covariates	OR (per 1- unit increase)	95% CI
	replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior		
Model-08	Age + total duration of breast feeding	2.4	0.12-15.12
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.97	0.08-21.28
HER2 Over	expressed: ER negative/PR negative/HER-2 positive: Ever/Never Exposure to Chlorinated Alkanes		
Model-01	Age	4.08	0.21-26.29
Model-02	Model-01+ education	3.99	0.20-25.84
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	6.95	0.25-80.43
Model-08	Age + total duration of breast feeding	3.69	0.18-26.59
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	9.18	0.35-149.35
Triple Nega	tive: ER negative/PR negative/HER-2 negative: Ever/Never Exposure to Chlorinated Alkanes	1	
Model-01	Age	1.85	0.1-11.19
Model-02	Model-01+ education	1.64	0.09-10.00
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.47	0.12-18.01
Model-08	Age + total duration of breast feeding	2.16	0.11-13.61
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	3.29	0.1-67.5
ER-/PR-: A	verage cumulative concentration (coded 1, 2, 3) of exposure to Chlorinated Alkanes	1	
Model-01	Age	1.89	0.32-7
Model-02	Model-01+ education	1.79	0.3-6.64
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.3	0.38-9.87

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-08	Age + total duration of breast feeding	2.05	0.34-7.82
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	4.03	0.46-32.98
ER-/PR+	No exposed cases.		
ER+/PR-: A	verage cumulative concentration (coded 1, 2, 3) of exposure to Chlorinated Alkanes		
Model-01	Age	3.57	1.2-10.58
Model-02	Model-01+ education	3.35	1.11-10.23
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	3.39	1.09-10.83
Model-08	Age + total duration of breast feeding	3.77	1.25-11.69
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	3.59	0.92-17.38
ER+/PR+: A	verage cumulative concentration (coded 1, 2, 3) of exposure to Chlorinated Alkanes		•
Model-01	Age	2.41	1.21-5.68
Model-02	Model-01+ education	2.41	1.2-5.68
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.4	1.18-5.68
Model-08	Age + total duration of breast feeding	2.47	1.23-5.86
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.84	0.79-4.89
Luminal A: Alkanes	ER positive and/or PR positive/HER-2 negative: Average cumulative concentration (coded 1, 2, 3) of ex-	xposure to Chlo	rinated
Model-01	Age	2.63	1.33-6.15
Model-02	Model-01+ education	2.62	1.33-6.17
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.68	1.33-6.36

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-08	Age + total duration of breast feeding	2.69	1.36-6.35
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	2.05	0.9-5.41
	ER positive and/or PR positive/HER-2 positive: Average cumulative concentration (coded 1, 2, 3) of ex		
Alkanes	EX positive and/or 1 x positive/112x-2 positive. Average cumulative concentration (coded 1, 2, 5) or ex	posure to emor	mateu
Model-01	Age	1.61	0.1-7.52
Model-02	Model-01+ education	1.51	0.09-7.1
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.44	0.08-7.3
Model-08	Age + total duration of breast feeding	1.77	0.11-8.39
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.43	0.08-11.14
ER-/PR-: D	uration of Exposure to Chlorinated Alkanes	1	
Model-01	Age	1.02	0.92-1.09
Model-02	Model-01+ education	1.02	0.92-1.09
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	0.93-1.11
Model-08	Age + total duration of breast feeding	1.03	0.93-1.11
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.04	0.93-1.14
ER-/PR+	No exposed cases.		
ER+/PR-: D	uration of Exposure to Chlorinated Alkanes	1	
Model-01	Age	1.03	0.94-1.1
Model-02	Model-01+ education	1.02	0.93-1.09
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.01	0.92-1.09

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-08	Age + total duration of breast feeding	1.04	0.94-1.12
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.06	0.96-1.16
ER+/PR+: I	uration of Exposure to Chlorinated Alkanes	1	
Model-01	Age	1.04	1-1.09
Model-02	Model-01+ education	1.04	1-1.09
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	0.99-1.08
Model-08	Age + total duration of breast feeding	1.04	1-1.09
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.03	0.97-1.09
Luminal A:	ER positive and/or PR positive/HER-2 negative: Duration of Exposure to Chlorinated Alkanes	1	l .
Model-01	Age	1.04	1-1.09
Model-02	Model-01+ education	1.03	0.99-1.09
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	0.99-1.08
Model-08	Age + total duration of breast feeding	1.04	1-1.09
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.03	0.98-1.1
Luminal B:	ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Chlorinated Alkanes	1	l .
Model-01	Age	1.04	0.95-1.11
Model-02	Model-01+ education	1.04	0.94-1.11
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.04	0.94-1.11
Model-08	Age + total duration of breast feeding	1.05	0.95-1.12
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.04	0.94-1.14

Model	Covariates	OR (per 1- unit increase)	95% CI
ER-/PR-: Av	erage Frequency Exposure to Chlorinated Alkanes		
Model-01	Age	1.19	0.9-1.58
Model-02	Model-01+ education	1.17	0.89-1.55
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.23	0.92-1.64
Model-08	Age + total duration of breast feeding	1.2	0.9-1.59
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.75	0.98-6.16
ER-/PR+	No exposed cases.		
ER+/PR-: A	verage Frequency Exposure to Chlorinated Alkanes	•	
Model-01	Age	1.31	0.95-1.84
Model-02	Model-01+ education	1.27	0.93-1.81
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.29	0.94-1.81
Model-08	Age + total duration of breast feeding	1.31	0.95-1.87
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.28	0.93-1.84
ER+/PR+: A	verage Frequency Exposure to Chlorinated Alkanes		
Model-01	Age	1.22	1.03-1.64
Model-02	Model-01+ education	1.22	1.03-1.65
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.19	1.02-1.61
Model-08	Age + total duration of breast feeding	1.23	1.03-1.66
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.22	1.02-1.64

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-01	Age	1.26	1.04-1.69
Model-02	Model-01+ education	1.25	1.04-1.69
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.23	1.03-1.68
Model-08	Age + total duration of breast feeding	1.26	1.04-1.72
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.24	1.02-1.69
Luminal B: 1	ER positive and/or PR positive/HER-2 positive: Average Frequency Exposure to Chlorinated Alkanes		
Model-01	Age	1.19	0.7-1.72
Model-02	Model-01+ education	1.17	0.68-1.69
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.15	0.66-1.69
Model-08	Age + total duration of breast feeding	1.2	0.71-1.73
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.21	0.7-1.8
Duration of 1	Exposure to Chlorinated Alkanes lagged 5 years before interview	1	
Model-01	Age	1.03	0.99-1.09
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	0.99-1.08
Model-08	Age + total duration of breast feeding	1.04	1-1.09
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.04	0.98-1.11
Duration Ex	posure to Chlorinated Alkanes before 36 years of age	1	
Model-01	Age	1.08	0.99-1.23
Model-02	Model-01+ education	1.08	0.98-1.23
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone	1.07	0.97-1.22

Model	Covariates	OR (per 1- unit increase)	95% CI
	replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	unit increase)	
Model-08	Age + total duration of breast feeding	1.09	0.99-1.24
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.09	0.97-1.26
Average cur	nulative concentration (coded 1, 2, 3) of exposure to Chlorinated Alkanes before 36 years of age	•	1
Model-01	Age	1.67	0.82-3.93
Model-02	Model-01+ education	1.63	0.8-3.89
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.6	0.77-3.87
Model-08	Age + total duration of breast feeding	1.74	0.85-4.18
Model-10	Age + MAH + total duration of breast feeding + Chlorinated Alkenes	1.57	0.67-4.17

Perchloroethylene

Model	Covariates	OR (per 1-	95% CI
		unit increase)	
ER-/PR-	No exposed cases.		
ER-/PR+	No exposed cases.		
ER+/PR-: F	Ever/Never Exposure to Perchloroethylene		
Model-01	Age	2.32	0.11-18.68
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	3.3	0.15-28.94
Model-08	Age + education + oral contraceptive duration	2.42	0.12-19.62
Model-10	Age + Carbon Tetrachloride + education + oral contraceptive duration + Chlorinated Alkanes	1.81	0.07-22.52
ER+/PR+:]	Ever/Never Exposure to Perchloroethylene	1	
Model-01	Age	2.52	0.66-12.04

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.85	0.71-14.1
Model-08	Age + education + oral contraceptive duration	2.44	0.63-11.75
Model-10	Age + Carbon Tetrachloride + education + oral contraceptive duration + Chlorinated Alkanes	3.56	0.81-24.57
Luminal A:	ER positive and/or PR positive/HER-2 negative: Ever/Never Exposure to Perchloroethylene		
Model-01	Age	2.43	0.63-11.64
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.69	0.67-13.44
Model-08	Age + education + oral contraceptive duration	2.39	0.62-11.52
Model-10	Age + Carbon Tetrachloride + education + oral contraceptive duration + Chlorinated Alkanes	3.12	0.69-21.84
Luminal B:	ER positive and/or PR positive/HER-2 positive: Ever/Never Exposure to Perchloroethylene	1	•
Model-01	Age	3.8	0.18-30.77
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	4.63	0.2-45.16
Model-08	Age + education + oral contraceptive duration	3.82	0.18-31.3
Model-10	Age + Carbon Tetrachloride + education + oral contraceptive duration + Chlorinated Alkanes	5.44	0.25-59.23
HER2 Over	expressed: ER negative/PR negative/HER-2 positive		
No exposed	cases.		•
Triple Nega	tive: ER negative/PR negative/HER-2 negative:		
No exposed	cases.		
Duration E	xposure to Perchloroethylene lagged 5 years before interview		<u> </u>
Model-01	Age	0.99	0.89-1.1

Model	Covariates	OR (per 1-	95% CI
		unit increase)	
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-	0.99	0.89-1.11
	term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone		
	replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal		
	body mass index from 1 year prior		
Model-08	Age + education + oral contraceptive duration	0.99	0.89-1.1
Model-10	Age + Carbon Tetrachloride + education + oral contraceptive duration + Chlorinated Alkanes	1.01	0.9-1.15
Duration E	xposure to Perchloroethylene before 36 years of age		
Model-01	Age	0.99	0.83-1.17
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-	1	0.84-1.19
	term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone		
	replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal		
	body mass index from 1 year prior		
Model-08	Age + education + oral contraceptive duration	0.98	0.82-1.17
Model-10	Age + Carbon Tetrachloride + education + oral contraceptive duration + Chlorinated Alkanes	0.99	0.83-1.19

Vinyl Chloride

Model	Covariates	OR (per 1-unit	95% CI
		increase)	
ER-/PR-: Ever/Never Exposure to Vinyl Chloride			
Model-01	Age	1.45	0.07-9.39
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.75	0.08-12.9
Model-08	Age + education + age first full-term pregnancy	1.36	0.07-8.97
Model-10	Model-09 + Chlorinated Alkanes + education + MAH	0.56	0.02-6.66
ER-/PR+	No exposed cases.		
ER+/PR-: I	Ever/Never Exposure to Vinyl Chloride		
Model-01	Age	1.44	0.07-9.52

Model	Covariates	OR (per 1-unit increase)	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	0.92	0.04-9.08
Model-08	Age + education + age first full-term pregnancy	1.18	0.06-8.25
Model-10	Model-09 + Chlorinated Alkanes + education + MAH	0.57	0.02-4.85
ER+/PR+:]	Ever/Never Exposure to Vinyl Chloride	1	
Model-01	Age	1.2	0.33-4.41
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.01	0.27-3.87
Model-08	Age + education + age first full-term pregnancy	1.22	0.33-4.5
Model-10	Model-09 + Chlorinated Alkanes + education + MAH	0.34	0.05-1.8
Luminal A:	ER positive and/or PR positive/HER-2 negative: Ever/Never Exposure to Vinyl Chloride	1	
Model-01	Age	1.34	0.39-4.75
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.05	0.28-3.97
Model-08	Age + education + age first full-term pregnancy	1.34	0.39-4.82
Model-10	Model-09 + Chlorinated Alkanes + education + MAH	0.44	0.09-2
Luminal B:	ER positive and/or PR positive/HER-2 positive	1	
No exposed	cases.		
HER2 Over	expressed: ER negative/PR negative/HER-2 positive		
No exposed	cases.		1
Triple Nega	tive: ER negative/PR negative/HER-2 negative: Ever/Never Exposure to Vinyl Chloride		
Model-01	Age	2.03	0.1-13.32

Model	Covariates	OR (per 1-unit increase)	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.03	0.1-15.73
Model-08	Age + education + age first full-term pregnancy	1.96	0.1-13.07
Model-10	Model-09 + Chlorinated Alkanes + education + MAH	1.48	0.05-22.48
Duration of	Exposure to Vinyl Chloride lagged 5 years before interview		
Model	Covariates	OR	95% CI
Model-01	Age	1.04	0.98-1.14
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.02	0.96-1.12
Model-08	Age + education + age first full-term pregnancy	1.03	0.97-1.13
Model-10	Model-09 + Chlorinated Alkanes + education + MAH	1.01	0.92-1.12
Duration of	Exposure to Vinyl Chloride before 36 years of age	1	
Model-01	Age	1.07	0.95-1.27
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.05	0.93-1.25
Model-08	Age + education + age first full-term pregnancy	1.07	0.94-1.26
Model-10	Model-09 + Chlorinated Alkanes + education + MAH	0.99	0.81-1.22

Chlorinated Alkenes

Model	Covariates	OR (per 1 - unit increase)	95% CI
ER-/PR-: Ev	ver/Never Exposure to Chlorinated Alkenes		
Model-01	Age	0.77	0.04-4.29

Model	Covariates	OR (per 1 - unit increase)	95% CI
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	0.84	0.04-4.92
Model-08	Age + education	0.72	0.04-4.03
Model-10	Age + education + Chlorinated Alkanes	0.27	0.01-2.62
ER-/PR+	No exposed cases.		
ER+/PR-: I	Ever/Never Exposure to Chlorinated Alkenes		
Model-01	Age	1.55	0.23-6.33
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.45	0.18-7.01
Model-08	Age + education	1.38	0.2-5.7
Model-10	Age + education + Chlorinated Alkanes	0.5	0.05-2.85
ER+/PR+:]	Ever/Never Exposure to Chlorinated Alkenes		
Model-01	Age	1.89	0.82-4.61
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.79	0.75-4.47
Model-08	Age + education	1.75	0.76-4.28
Model-10	Age + education + Chlorinated Alkanes	1.03	0.36-2.9
Luminal A:	ER positive and/or PR positive/HER-2 negative: Ever/Never Exposure to Chlorinated Alkenes	1	1
Model-01	Age	1.92	0.84-4.64
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.75	0.74-4.38
Model-08	Age + education	1.75	0.76-4.25

Model	Covariates	OR (per 1 - unit increase)	95% CI
Model-10	Age + education + Chlorinated Alkanes	0.93	0.33-2.6
Luminal B:	ER positive and/or PR positive/HER-2 positive: Ever/Never Exposure to Chlorinated Alkenes		
Model-01	Age	1.32	0.07-7.43
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.36	0.07-8.66
Model-08	Age + education	1.22	0.06-6.89
Model-10	Age + education + Chlorinated Alkanes	0.88	0.04-6.99
HER2 Over	rexpressed: ER negative/PR negative/HER-2 positive	1	
No exposed	cases.		
Triple Nega	ative: ER negative/PR negative/HER-2 negative: Ever/Never Exposure to Chlorinated Alkenes		
Model-01	Age	1.12	0.06-6.28
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.2	0.06-7.43
Model-08	Age + education	1.04	0.05-5.85
Model-10	Age + education + Chlorinated Alkanes	0.68	0.02-6.79
Duration E	xposure to Chlorinated Alkenes lagged 5 years before interview		
Model-01	Age	1.02	0.97-1.08
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.01	0.96-1.07
Model-08	Age + education	1.02	0.97-1.07
Model-10	Age + education + Chlorinated Alkanes	0.99	0.92-1.05
Duration E	xposure to Chlorinated Alkenes before 36 years of age	•	-1
Model-01	Age	1.04	0.95-1.17

Model	Covariates	OR (per 1 -	95% CI
		unit increase)	
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	0.94-1.16
Model-08	Age + education	1.03	0.94-1.15
Model-10	Age + education + Chlorinated Alkanes	0.98	0.86-1.12

Reactive metabolites:

Model	Covariates	OR (per 1-	95% CI
		unit	
		increase)	
ER-/PR-: N	Ietric 1:Ever/Never Exposure to Reactive Metabolites		
Model-01	Age	1.01	0.29-2.66
Model-02	Model-01+ education	0.98	0.28-2.60
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.17	0.33-3.21
Model-08	Age	1.01	0.29-2.66
ER-/PR+	No exposed cases.		
ER+/PR-: N	Metric 1:Ever/Never Exposure to Reactive Metabolites	•	
Model-01	Age	2.79	1.23-5.86
Model-02	Model-01+ education	2.76	1.21-5.83
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.94	1.23-6.61
Model-08	Age	2.79	1.23-5.86
ER+/PR+:	Metric 1:Ever/Never Exposure to Reactive Metabolites	1	1
Model-01	Age	1.79	1.09-2.99

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-02	Model-01+ education	1.74	1.05-2.91
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.84	1.1-3.12
Model-08	Age	1.79	1.09-2.99
Luminal A:	ER positive and/or PR positive/HER-2 negative: Metric 1:Ever/Never Exposure to Reactive Metabolites	S	
Model-01	Age	1.96	1.21-3.23
Model-02	Model-01+ education	1.92	1.18-3.17
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.07	1.25-3.48
Model-08	Age	1.96	1.21-3.23
Luminal B:	ER positive and/or PR positive/HER-2 positive: Metric 1:Ever/Never Exposure to Reactive Metabolites		•
Model-01	Age	2.11	0.69-5.33
Model-02	Model-01+ education	2.05	0.67-5.21
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	2.19	0.69-5.81
Model-08	Age	2.11	0.69-5.33
HER2 Over	expressed: ER negative/PR negative/HER-2 positive: Metric 1:Ever/Never Exposure to Reactive Metabo	olites	•
Model-01	Age	1.64	0.26-5.97
Model-02	Model-01+ education	1.64	0.25-5.95
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.91	0.27-7.95

Triple Negative: ER negative/PR negative/HER-2 negative: Metric 1:Ever/Never Exposure to Reactive Metabolites Model-01 Age 0.72 0.11-2.51 Model-02 Model-01+ education 0.7 0.11-2.44 Model-03 Model-02-family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 0.72 0.11-2.51 ER-PR-: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 1.04 0.39-2.18 Model-02 Model-01+ education 1 1 0.38-2.1 Model-03 Model-02-family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 1.104 0.39-2.18 ER-/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites ER-/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 2.1 1.12-3.73 Model-02 Model-01+ education 2.02 1.07-3.6 Model-03 Model-02-family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 2.08 1.07-3.82 Model-03 Age 2.1 1.12-3.73 ER-/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	Model	Covariates	OR (per 1- unit increase)	95% CI
Model-01 Age 0.72 0.11-2.51 Model-02 Model-01+ education 0.7 0.11-2.44 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 0.72 0.11-2.51 ER-/PR-: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 1.04 0.39-2.18 Model-02 Model-01+ education 1 0.38-2.1 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.04 0.39-2.18 ER-/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 2.1 1.12-3.73 Model-02 Model-01+ education 2.02 1.07-3.6 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 2.02 1.07-3.6 Model-01 Age 2.1 1.12-3.73 Model-02 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 2.1 1.12-3.73 Model-08 Age 2.1 1.12-3.73	Model-08	Age	1.64	0.26-5.97
Model-02 Model-01+ education 0.7 0.11-2.44 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 0.72 0.11-2.51 EER-/PR: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 1.04 0.39-2.18 Model-02 Model-01+ education 1.16 0.38-2.1 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 1.04 0.39-2.18 EER-/PR: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-08 Age 1.04 0.39-2.18 EER-/PR: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 2.1 1.12-3.73 Model-02 Model-01+ education 2.02 1.07-3.6 Model-03 Model-04-family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 2.02 1.07-3.82 Model-08 Age 2.1 1.12-3.73 Model-08 Age 2.1 1.12-3.73 EER+/PR: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	Triple Nega	tive: ER negative/PR negative/HER-2 negative: Metric 1:Ever/Never Exposure to Reactive Metabolites	•	•
Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior 0.72 0.11-2.51 ER-/PR-: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites 1.04 0.39-2.18 Model-01 Age 1.04 0.39-2.18 Model-02 Model-01+ education 1 0.38-2.1 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior 1.04 0.39-2.18 ER-/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites 2.1 1.12-3.73 Model-02 Model-01+ education 2.02 1.07-3.6 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior 2.08 1.07-3.82 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior 2.08 1.07-3.82 ER-/PR+: Average cumulative concentration (coded 1,2,3) exposure to Reactive Metabolites	Model-01	Age	0.72	0.11-2.51
term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age 0.72 0.11-2.51 ER-/PR-: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 1.04 0.39-2.18 Model-02 Model-01+ education 1 0.38-2.1 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age 1.04 0.39-2.18 ER-/PR-: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 2.1 1.12-3.73 Model-02 Model-01+ education 2.02 1.07-3.6 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age 2.1 1.12-3.73 ER+/PR+: Average cumulative concentration (coded 1,2,3) exposure to Reactive Metabolites	Model-02	Model-01+ education	0.7	0.11-2.44
ER-/PR-: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-02 Model-01+ education 1 0.38-2.1 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.04 0.39-2.18 ER+/PR-: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 2.1 1.12-3.73 Model-02 Model-01+ education 2.02 1.07-3.6 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 2.1 1.12-3.73 ER+/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	Model-03	term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal	0.8	0.12-2.9
Model-01 Age 1.04 0.39-2.18 Model-02 Model-01+ education 1 0.38-2.1 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age 1.04 0.39-2.18 ER-/PR+ No exposed cases. ER+/PR-: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 2.1 1.12-3.73 Model-02 Model-01+ education 2.02 1.07-3.6 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age 2.1 1.12-3.73 ER+/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	Model-08	Age	0.72	0.11-2.51
Model-02 Model-01+ education Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.04 0.39-2.18 ER-/PR+ No exposed cases. ER+/PR: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 2.1 1.12-3.73 Model-02 Model-01+ education 2.02 1.07-3.6 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 2.1 1.12-3.73 ER+/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	ER-/PR-: A	verage cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	1	
Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full- term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.04 0.39-2.18 ER-/PR+ No exposed cases. ER+/PR-: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 2.1 1.12-3.73 Model-02 Model-01+ education 2.02 1.07-3.6 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full- term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 2.1 1.12-3.73 ER+/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	Model-01	Age	1.04	0.39-2.18
term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age 1.04 0.39-2.18 ER-/PR+ No exposed cases. ER+/PR-: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age 2.1 1.12-3.73 Model-02 Model-01+ education 2.02 1.07-3.6 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior 2.1 1.12-3.73 ER+/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	Model-02	Model-01+ education	1	0.38-2.1
Model-08 Age 1.04 0.39-2.18 ER-/PR+ No exposed cases. 2.1 1.12-3.73 Model-01 Age 2.1 1.12-3.73 Model-02 Model-01+ education 2.02 1.07-3.6 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior 2.1 1.12-3.73 ER+/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	Model-03	term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal	1.16	0.43-2.47
ER+/PR-: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites Model-01 Age Model-02 Model-01+ education Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age ER+/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	Model-08		1.04	0.39-2.18
Model-01 Age Model-02 Model-01+ education Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age ER+/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	ER-/PR+	No exposed cases.		
Model-02 Model-01+ education Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age ER+/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	ER+/PR-: A	verage cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	1	
Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full- term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age 2.1 1.12-3.73 ER+/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	Model-01	Age	2.1	1.12-3.73
term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age 2.1 1.12-3.73 ER+/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	Model-02	Model-01+ education	2.02	1.07-3.6
Model-08 Age 2.1 1.12-3.73 ER+/PR+: Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites	Model-03	term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal	2.08	1.07-3.82
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Model-08		2.1	1.12-3.73
Model-01 Age 1.61 1.11-2.38	ER+/PR+:	Average cumulative concentration (coded 1,2, 3) exposure to Reactive Metabolites		·
	Model-01	Age	1.61	1.11-2.38

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-02	Model-01+ education	1.58	1.09-2.33
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.61	1.1-2.41
Model-08	Age	1.61	1.11-2.38
Luminal A	ER positive and/or PR positive/HER-2 negative: Average cumulative concentration (coded 1,2,3) expos	sure to Reactiv	e Metabolites
Model-01	Age	1.7	1.18-2.51
Model-02	Model-01+ education	1.67	1.15-2.46
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.72	1.17-2.58
Model-08	Age	1.7	1.18-2.51
Luminal B:	ER positive and/or PR positive/HER-2 positive: Average cumulative concentration (coded 1,2, 3) exposu	ure to Reactive	Metabolites
Model-01	Age	1.9	0.85-3.69
Model-02	Model-01+ education	1.8	0.81-3.51
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.87	0.83-3.75
Model-08	Age	1.9	0.85-3.69
ER-/PR-: D	uration of Exposure to Reactive Metabolites	•	•
Model-01	Age	1	0.92-1.06
Model-02	Model-01+ education	1	0.92-1.06
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.01	0.93-1.07

ER/PR: Duration of Exposure to Reactive Metabolites Model-01 Age	Model	Covariates	OR (per 1- unit increase)	95% CI
ER+/PR: Duration of Exposure to Reactive Metabolites Model-01 Age	Model-08	Age	1	0.92-1.06
Model-01 Age 1.04 0.99-1.09 Model-02 Model-01+ education 1.04 0.99-1.09 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 1.04 0.99-1.09	ER-/PR+	No cases exposed.		
Model-02 Model-01+ education 1.04 0.99-1.09 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.04 0.99-1.09 ER+/PR+: Duration of Exposure to Reactive Metabolites Model-01 Age 1.03 1-1.06 Model-02 Model-01+ education 1.03 1-1.06 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1-1.06 Luminal A: ER positive and/or PR positive/HER-2 negative: Duration of Exposure to Reactive Metabolites Model-02 Model-01+ education 1.03 1-1.07 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 1.03 1-1.07 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 1.03 1.01-1.07 Luminal B: ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Reactive Metabolites	ER+/PR-: I	Duration of Exposure to Reactive Metabolites	•	
Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.04 0.99-1.09 ER+/PR+: Duration of Exposure to Reactive Metabolites Model-01 Age 1.03 1-1.06 Model-02 Model-01+ education 1.03 1-1.06 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1-1.06 Luminal A: ER positive and/or PR positive/HER-2 negative: Duration of Exposure to Reactive Metabolites Model-02 Model-01+ education 1.03 1-1.07 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1.01-1.07 Luminal B: ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Reactive Metabolites	Model-01	Age	1.04	0.99-1.09
term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.04 0.99-1.09 ERH/PR+: Duration of Exposure to Reactive Metabolites Model-01 Age 1.03 1-1.06 Model-02 Model-01+ education 1.03 1-1.06 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1-1.06 Luminal A: ER positive and/or PR positive/HER-2 negative: Duration of Exposure to Reactive Metabolites Model-02 Model-01+ education 1.03 1-1.07 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 1.03 1-1.07 Model-08 Age 1.03 1.01-1.07 Luminal B: ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Reactive Metabolites	Model-02	Model-01+ education	1.04	0.99-1.09
ER+/PR+: Duration of Exposure to Reactive Metabolites Model-01 Age 1.03 1-1.06 Model-02 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1-1.06 Luminal A: ER positive and/or PR positive/HER-2 negative: Duration of Exposure to Reactive Metabolites Model-01 Age 1.03 1.01-1.07 Model-02 Model-01+ education 1.03 1-1.07 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1.01-1.07 Luminal B: ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Reactive Metabolites	Model-03	term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal	1.04	0.99-1.09
Model-01 Age 1.03 1-1.06 Model-02 Model-01+ education 1.03 1-1.06 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior 1.03 1-1.06 Model-08 Age 1.03 1-1.06 Luminal A: ER positive and/or PR positive/HER-2 negative: Duration of Exposure to Reactive Metabolites 1.03 1.01-1.07 Model-01 Age 1.03 1.01-1.07 Model-02 Model-01+ education 1.03 1-1.07 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior 1.03 1.1.07 Model-08 Age 1.03 1.01-1.07 Luminal B: ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Reactive Metabolites	Model-08	Age	1.04	0.99-1.09
Model-02 Model-01+ education Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1-1.06 Luminal A: ER positive and/or PR positive/HER-2 negative: Duration of Exposure to Reactive Metabolites Model-01 Age 1.03 1.01-1.07 Model-02 Model-01+ education 1.03 1-1.07 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1.01-1.07 Luminal B: ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Reactive Metabolites	ER+/PR+:	Duration of Exposure to Reactive Metabolites	1	I
Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full- term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1-1.06 Luminal A: ER positive and/or PR positive/HER-2 negative: Duration of Exposure to Reactive Metabolites Model-01 Age 1.03 1.01-1.07 Model-02 Model-01+ education 1.03 1-1.07 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full- term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1.01-1.07 Luminal B: ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Reactive Metabolites	Model-01	Age	1.03	1-1.06
term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1-1.06 Luminal A: ER positive and/or PR positive/HER-2 negative: Duration of Exposure to Reactive Metabolites Model-01 Age 1.03 1.01-1.07 Model-02 Model-01+ education 1.03 1-1.07 Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior 1.03 1.01-1.07 Luminal B: ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Reactive Metabolites	Model-02	Model-01+ education	1.03	1-1.06
Model-08 Age Luminal A: ER positive and/or PR positive/HER-2 negative: Duration of Exposure to Reactive Metabolites Model-01 Age Model-02 Model-01+ education Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1.01-1.07 1-1.07 1-1.07 1-1.07 1.03 1-1.07 1-1.07 1.03 1.01-1.07 1.03 1.01-1.07	Model-03	term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal	1.03	1-1.06
Model-01 Age Model-02 Model-01+ education Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) + postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1-1.07 1-1.07 1.03 1-1.07 1.03 1-1.07 1.03 1.01-1.07	Model-08		1.03	1-1.06
Model-02 Model-01+ education Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1-1.07 1.03 1-1.07 1.03 1-1.07 1.03 1-1.07	Luminal A	ER positive and/or PR positive/HER-2 negative: Duration of Exposure to Reactive Metabolites		1
Model-03 Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full- term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1-1.07 Luminal B: ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Reactive Metabolites	Model-01	Age	1.03	1.01-1.07
term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior Model-08 Age 1.03 1.01-1.07 Luminal B: ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Reactive Metabolites	Model-02	Model-01+ education	1.03	1-1.07
Luminal B: ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Reactive Metabolites	Model-03	term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal	1.03	1-1.07
	Model-08	Age	1.03	1.01-1.07
Model-01 Age 1.03 0.96-1.08	Luminal B	ER positive and/or PR positive/HER-2 positive: Duration of Exposure to Reactive Metabolites	•	•
	Model-01	Age	1.03	0.96-1.08

Model	Covariates	OR (per 1- unit increase)	95% CI
Model-02	Model-01+ education	1.03	0.96-1.08
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	0.95-1.08
Model-08	Age	1.03	0.96-1.08
ER-/PR-: A	verage Frequency Exposure to Reactive Metabolites		•
Model-01	Age	1	0.93-1.05
Model-02	Model-01+ education	1	0.92-1.05
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1	0.93-1.05
Model-08	Age	1	0.93-1.05
ER-/PR+	No exposed cases.		
ER+/PR-: A	Average Frequency of Exposure to Reactive Metabolites		
Model-01	Age	1.03	0.99-1.07
Model-02	Model-01+ education	1.02	0.98-1.06
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	0.98-1.07
Model-08	Age	1.03	0.99-1.07
ER+/PR+:	Average Frequency of Exposure to Reactive Metabolites	<u> </u>	
Model-01	Age	1.03	1-1.06
Model-02	Model-01+ education	1.03	1-1.06
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone	1.03	1-1.06

Model	Covariates	OR (per 1- unit increase)	95% CI
	replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior		
Model-08	Age	1.03	1-1.06
Luminal A	ER positive and/or PR positive/HER-2 negative: Average Frequency of Exposure to Reactive Metabolit	es	
Model-01	Age	1.03	1-1.06
Model-02	Model-01+ education	1.03	1-1.06
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	1-1.06
Model-08	Age	1.03	1-1.06
Luminal B:	ER positive and/or PR positive/HER-2 positive: Average Frequency of Exposure to Reactive Metabolite	S	1
Model-01	Age	1.04	0.99-1.08
Model-02	Model-01+ education	1.04	0.99-1.08
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.04	0.99-1.08
Model-08	Age	1.04	0.99-1.08
Model-01	Age	1.03	1-1.07
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.03	1-1.07
Model-08	Age	1.03	1-1.07
Duration E	xposure to Reactive Metabolites before 36 years of age	l	I
Model-01	Age	1.06	1-1.15
Model-02	Model-01+ education	1.06	0.99-1.14

Model	Covariates	OR (per 1-	95% CI
		unit	
		increase)	
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.06	0.99-1.15
Model-08	Age	1.06	1-1.15
Average cu	mulative concentration (coded 1, 2, 3) of exposure to Reactive Metabolites before 36 years of age		
Model-01	Age	1.39	0.94-2.12
Model-02	Model-01+ education	1.34	0.9-2.05
Model-03	Model-02+family history + ethnicity + age at bilateral oophorectomy + age at menarche + age at first full-term pregnancy + total duration of breast feeding + oral contraceptive use + duration of hormone replacement therapy + alcohol drinking (before 60, before 40) + smoking (pack years) +postmenopausal body mass index from 1 year prior	1.38	0.92-2.13
Model-08	Age	1.39	0.94-2.12