

Associations between preservative food additives and type 2 diabetes incidence in the NutriNet-Santé prospective cohort

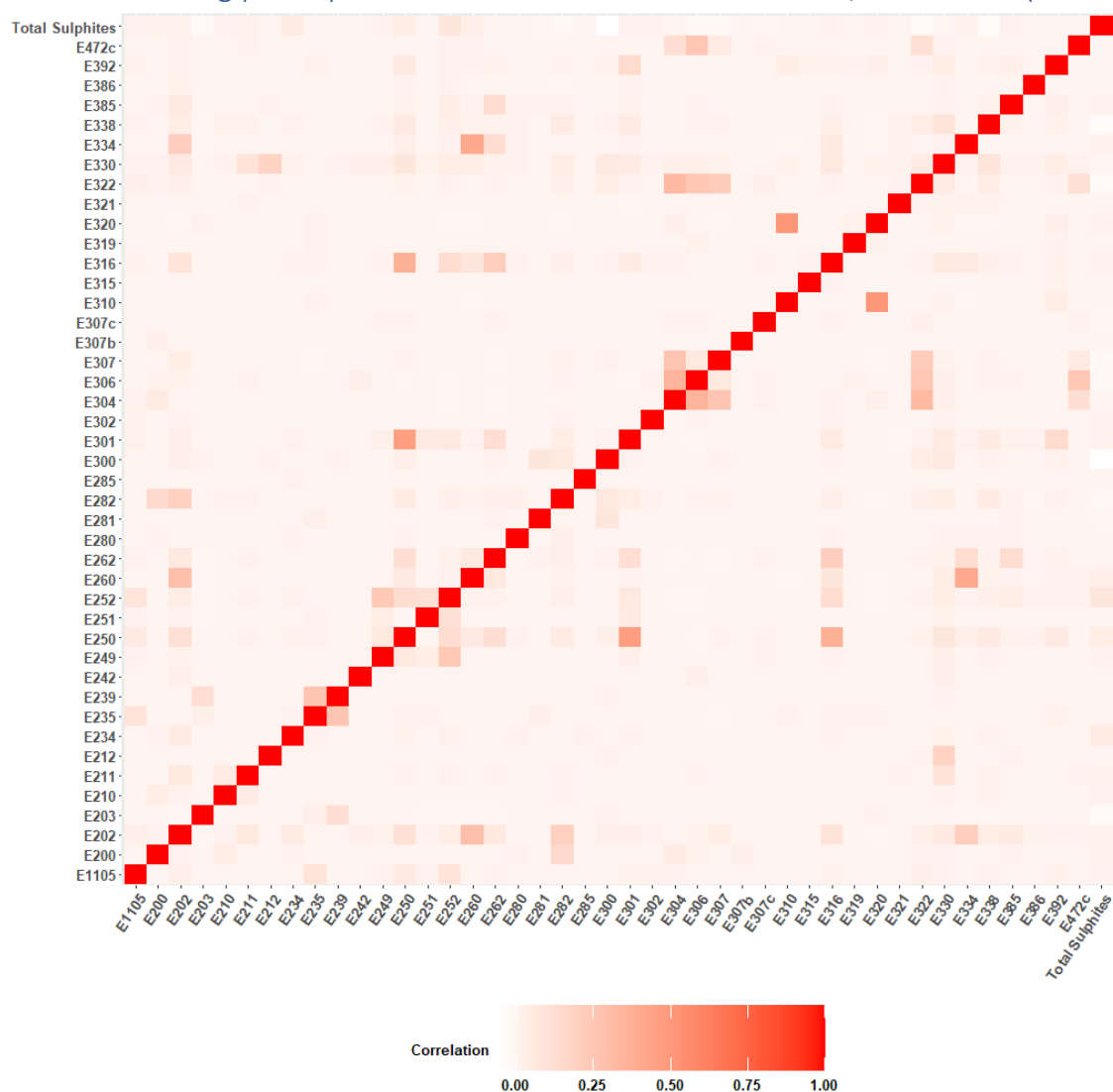
Table of Contents

Table of Contents	1
Supplementary Figures.....	3
Supplementary Figure 1 – Spearman correlations between intakes of preservative food additives among participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723).....	3
Supplementary Figure 2 – Correlations between Schoenfeld residuals and timescale (age, y) from multivariable Cox models between preservative food additive intakes and type 2 diabetes risk in participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723).....	4
Supplementary Figure 3 – Restricted cubic spline plots of the association between preservative food additive intakes and type 2 diabetes risk in participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723).....	11
Supplementary Figure 4 – Summary of literature (non-exhaustive) on mechanistic plausibility supporting the detected associations between preservative food additive intakes and type 2 diabetes risk	17
Supplementary Figure 5 – Flowchart on the methods for preservative food additive dose allocation	18
Supplementary Tables.....	19
Supplementary Table 1 – Detailed contributions of food groups (%) to preservative food additive intakes among participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723) ^a	19
Supplementary Table 2 – Associations between preservative food additive intakes and type 2 diabetes risk among study participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723) ^a	21
Supplementary Table 3 – Sensitivity analyses for the associations between preservative food additive intakes and type 2 diabetes risk among study participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723) ^a	24
Supplementary Table 4 – Associations between intakes of acetic acid, citric acid, nitrates, nitrites, sulfites, vitamin C, and vitamin E from naturally occurring sources and type 2 diabetes incidence among study participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723) ^{a,b}	41
Supplementary Table 5 – Comparison of exposures to preservative food additives between EFSA and NutriNet-Santé, 2009-2023 (n=108,723)	42
Supplementary Table 6 – Cut-offs for preservative food additive exposures per sex and period for study participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723)	43

Supplementary Table 7 - Associations between citric acid (E330) food additive intakes and type 2 diabetes risk among study participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723), stratified by the naturally-occurring intake of citric acid ^a	45
Supplementary Table 8 – Dietary patterns derived by principal component analysis: factor loadings	46
Supplementary References	47

Supplementary Figures

Supplementary Figure 1 – Spearman correlations between intakes of preservative food additives among participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723).



Source data are provided as a Source Data file.

Supplementary Figure 2 – Correlations between Schoenfeld residuals and timescale (age, y) from multivariable Cox models between preservative food additive intakes and type 2 diabetes risk in participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723)

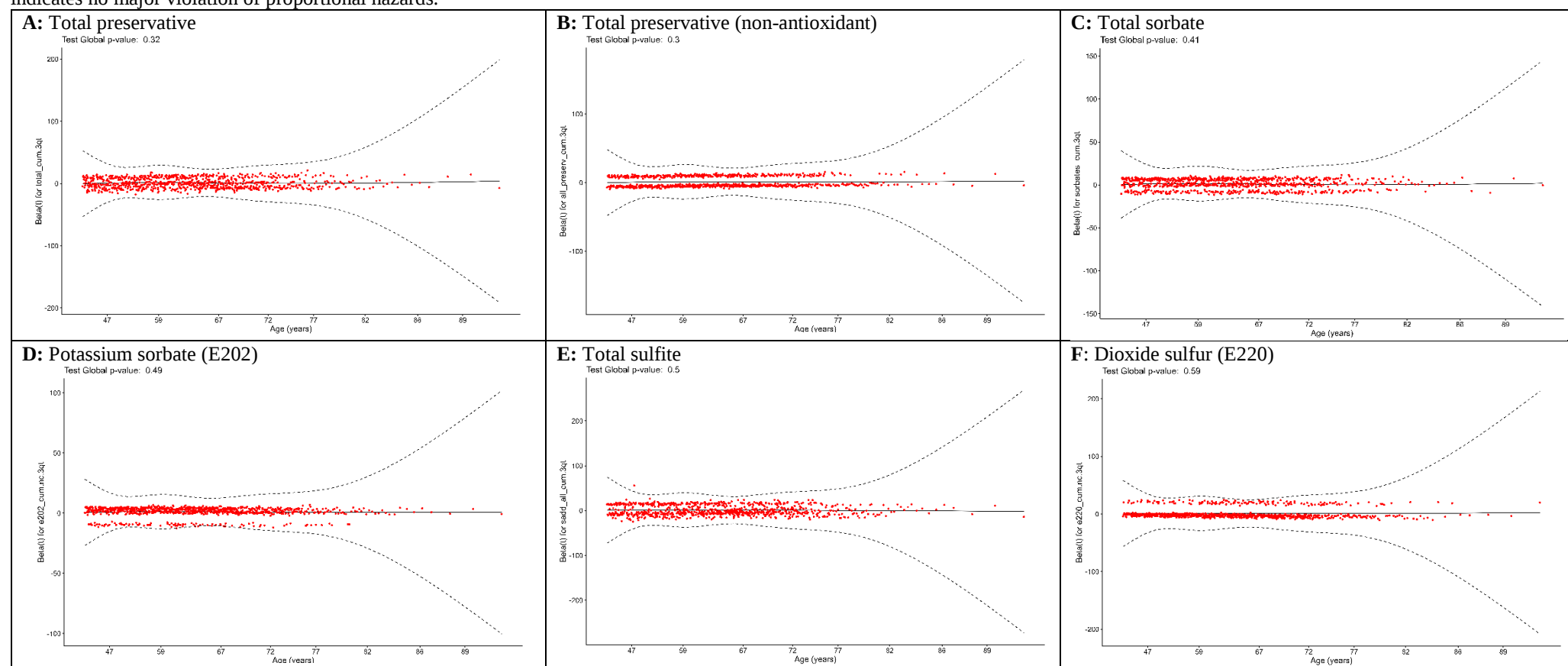
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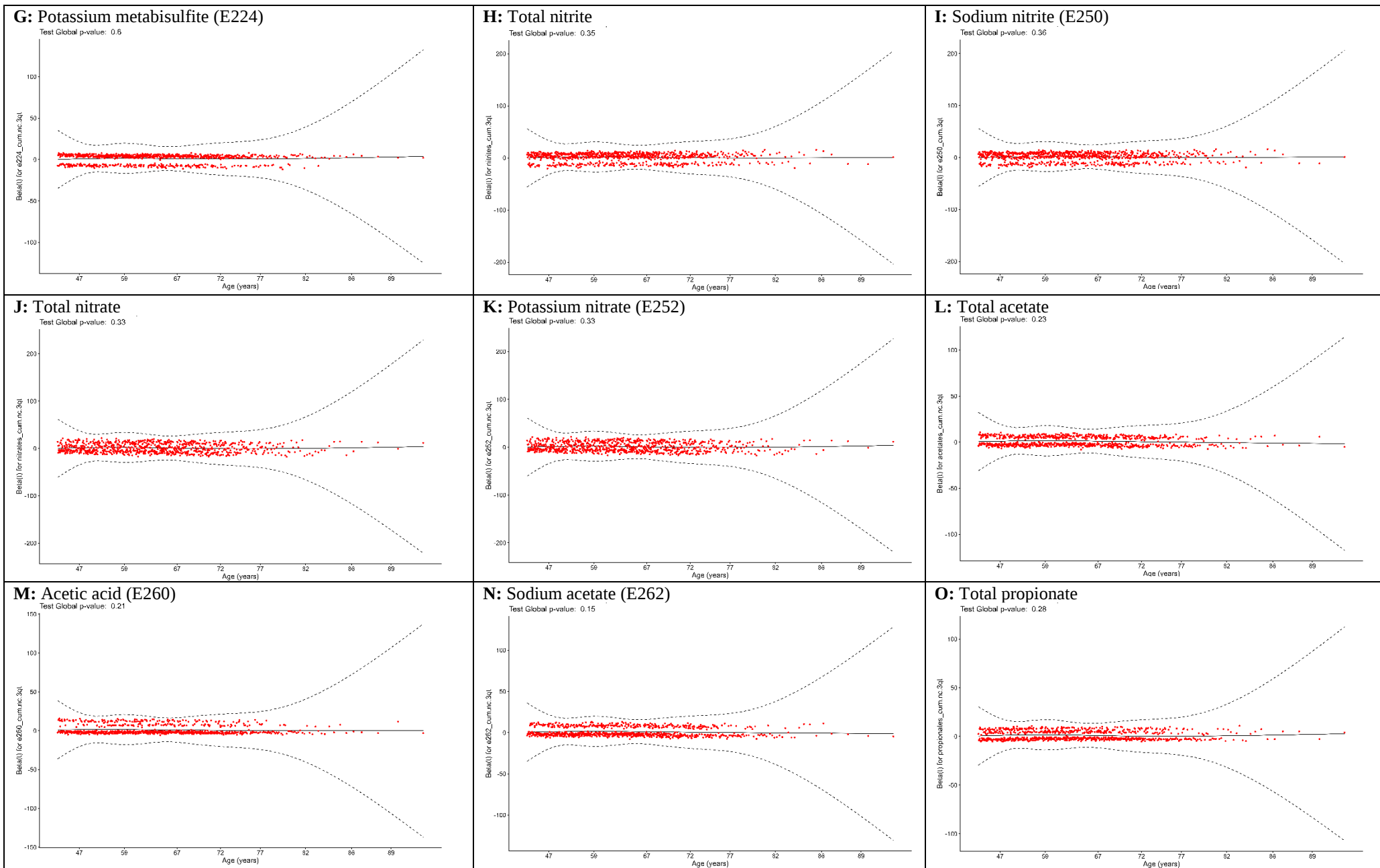
B: Total preservative (non-antioxidant). **C:** Total sorbate. **D:** Potassium sorbate (E202). **E:** Total sulfite. **F:** Dioxide sulfur (E220). **G:** Potassium metabisulfite (E224). **H:** Total nitrite. **I:** Sodium nitrite (E250). **J:** Total nitrate. **K:** Potassium nitrate (E252). **L:** Total acetate. **M:** Acetic acid (E260). **N:** Sodium acetates (E262). **O:** Total propionate. **P:** Calcium propionate (E282).

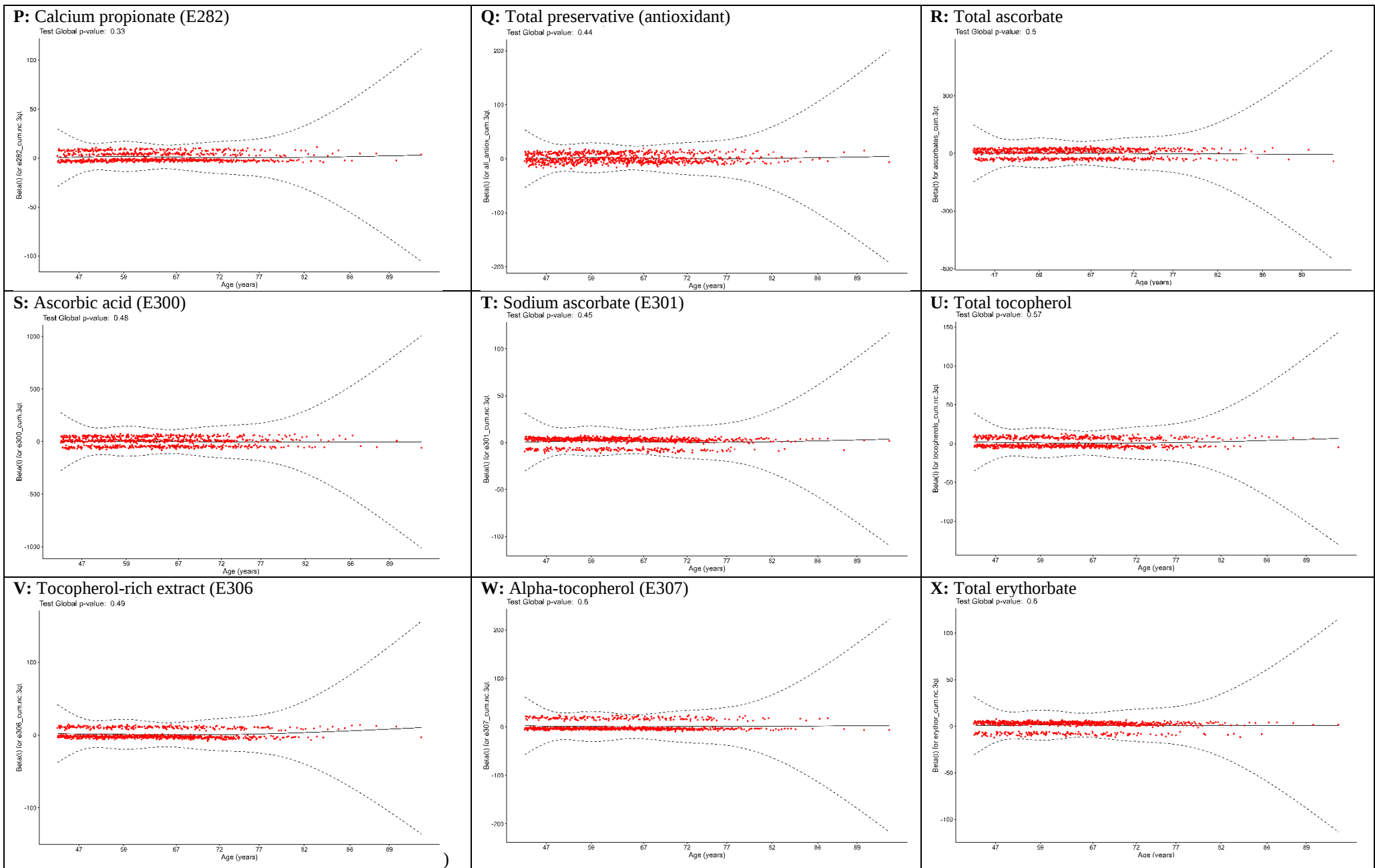
Q: Total preservative (antioxidant). **R:** Total ascorbate. **S:** Ascorbic acid (E300). **T:** Sodium ascorbate (E301). **U:** Total tocopherol. **V:** Tocopherol-rich extract (E306). **W:** Alpha-tocopherol (E307). **X:** Total erythorbate. **Y:** Sodium erythorbate (E316). **Z:** Lecithin (E322). **AA:** Citric acid (E330). **AB:** Phosphoric acid (E338). **AC:** Extracts of rosemary (E392).

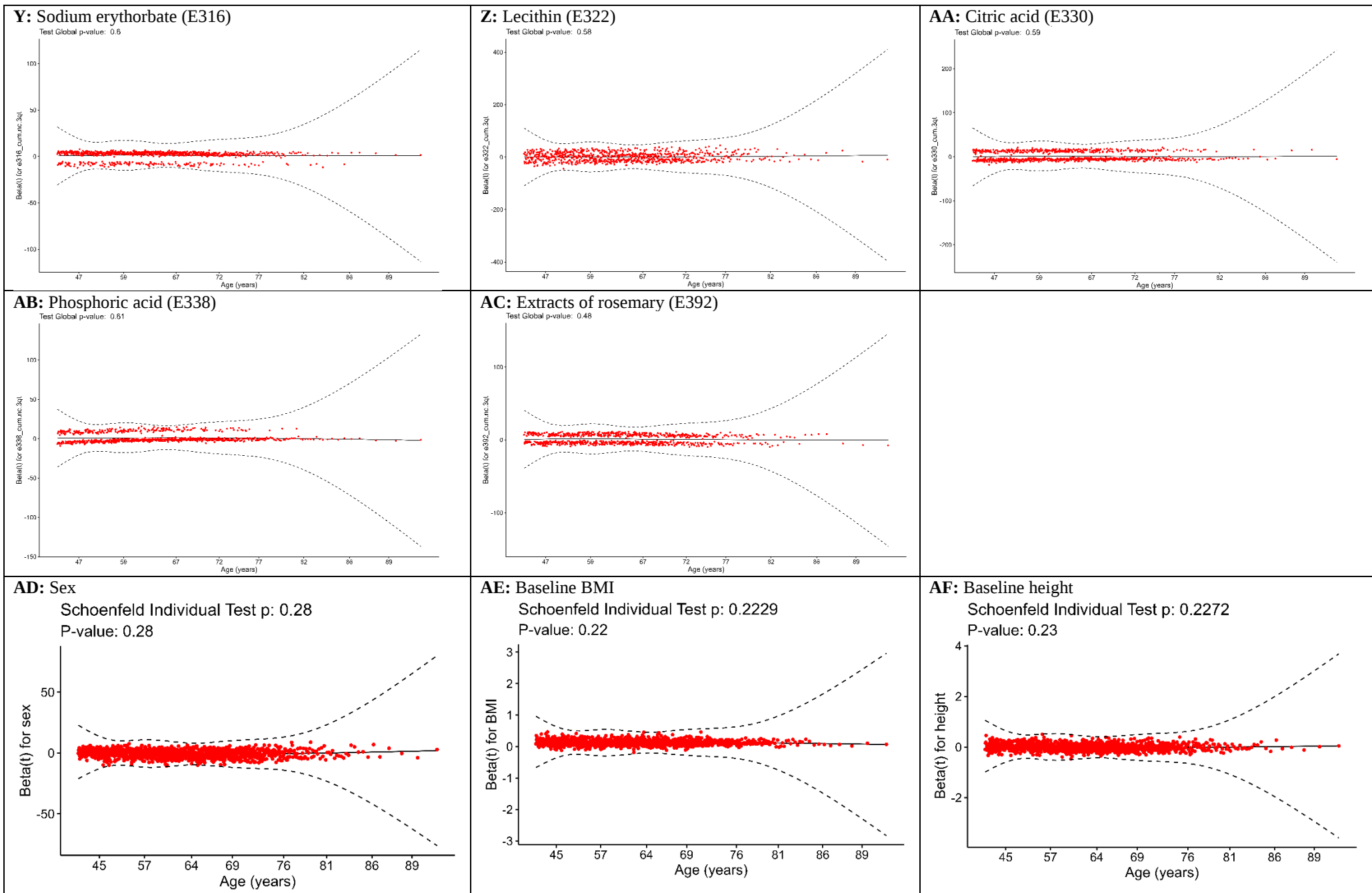
AD: Sex. **AE:** Baseline BMI. **AF:** Baseline height. **AG:** Baseline physical activity level. **AH:** Baseline education level. **AI:** Baseline smoking status. **AJ:** Baseline number of smoked cigarettes in pack-years. **AK:** Baseline family history of diabetes. **AL:** Number of 24-hour dietary records (24HDRs). **AM:** Time-dependent energy intake without alcohol. **AN:** Time-dependent alcohol intake. **AO:** Time-dependent saturated fat intake. **AP:** Time-dependent sodium intake. **AQ:** Time-dependent dietary fibre intake. **AR:** Time-dependent sugar intake. **AS:** Time-dependent fruit and vegetable intake. **AT:** Time-dependent red and processed meat intake. **AU:** Time-dependent dairy product intake.

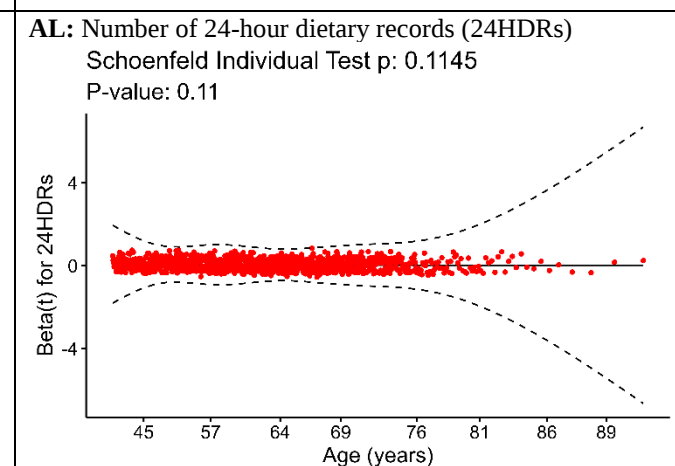
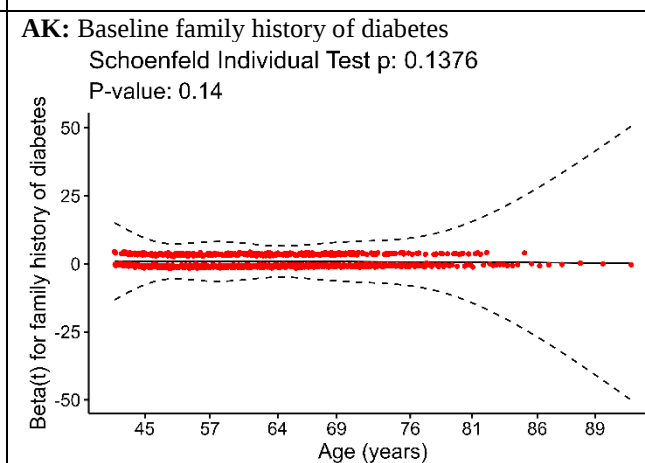
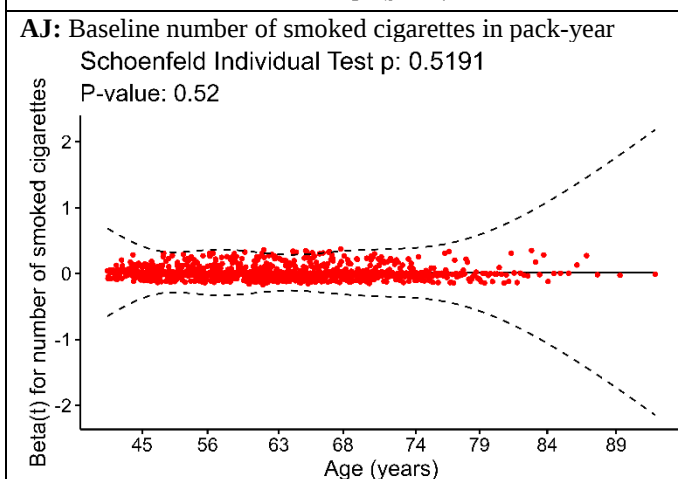
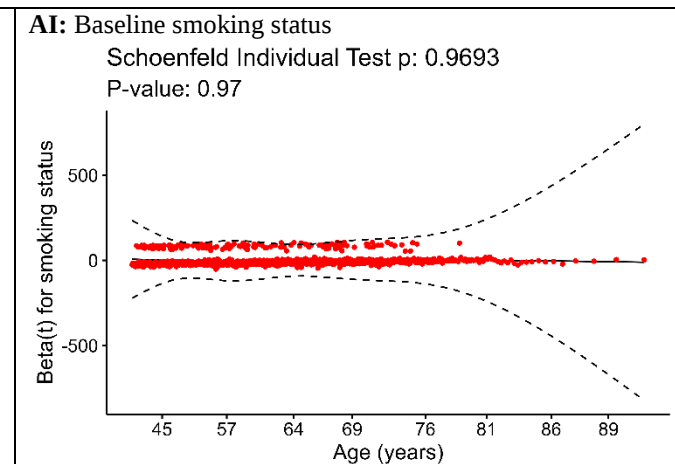
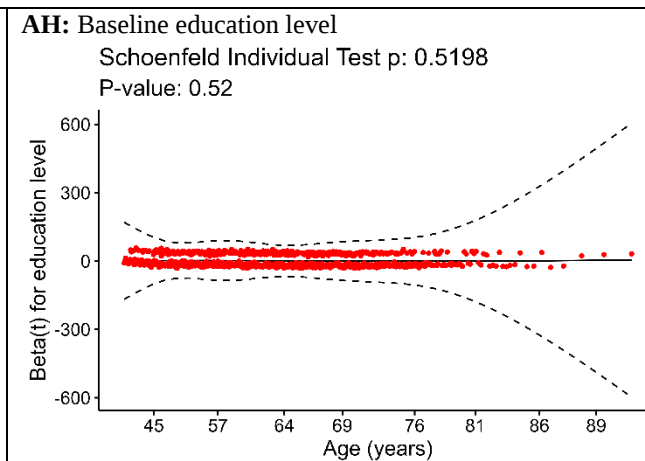
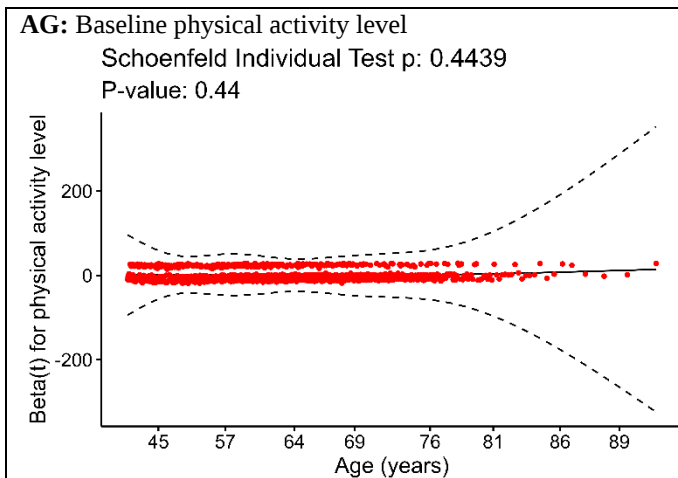
Dots represent covariate-specific Schoenfeld residuals at each event time and dashed black lines correspond to confidence interval; the absence of systematic trends in the smoothed curves indicates no major violation of proportional hazards.

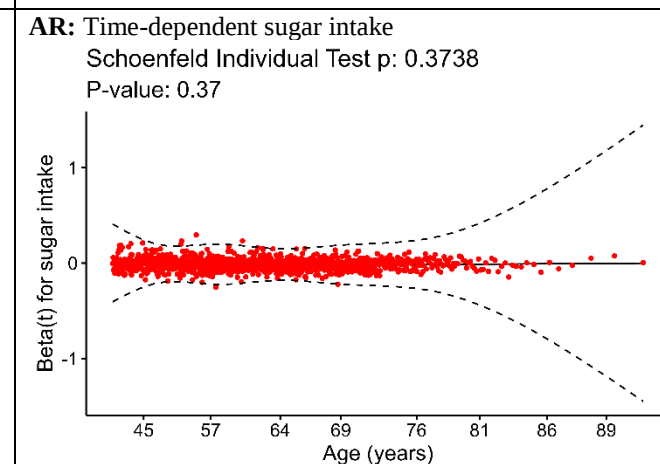
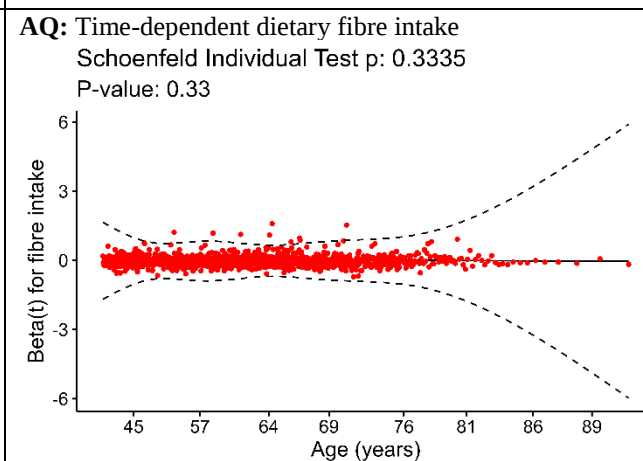
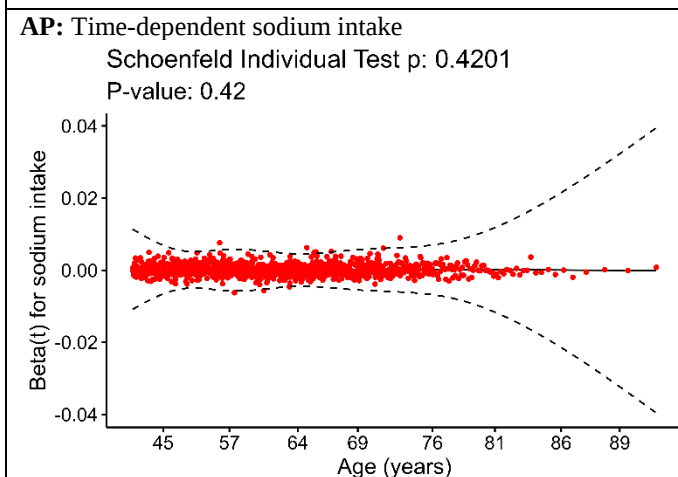
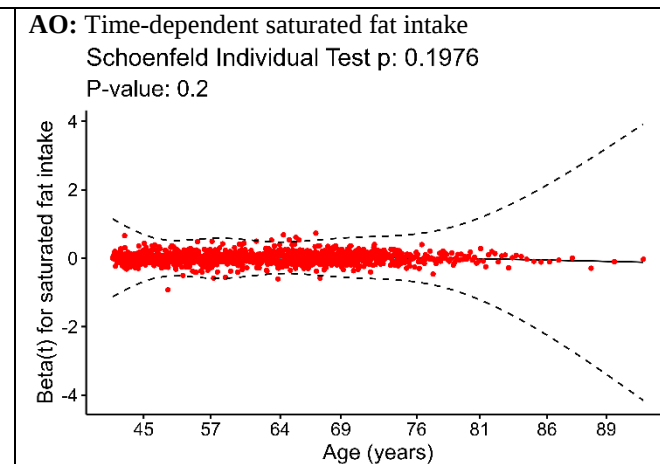
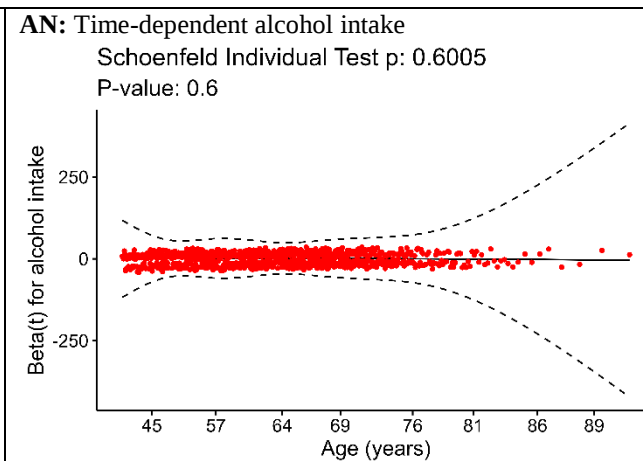
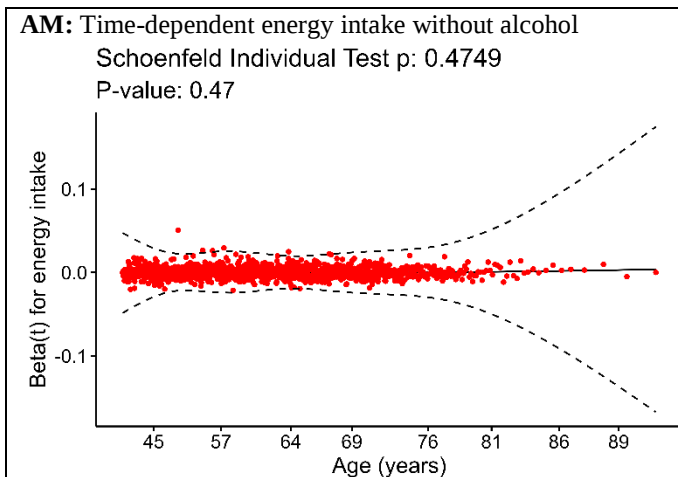


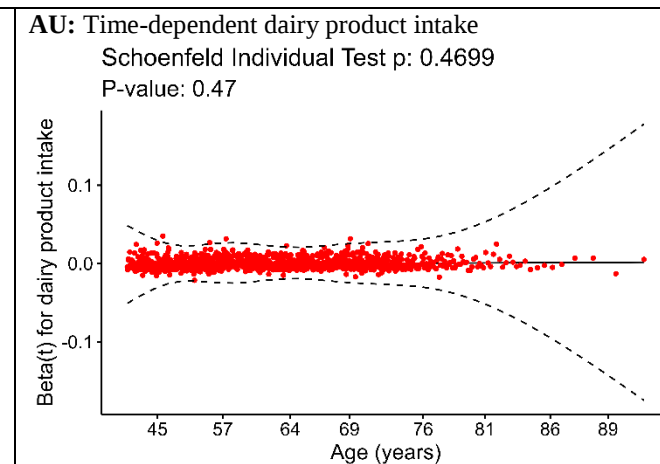
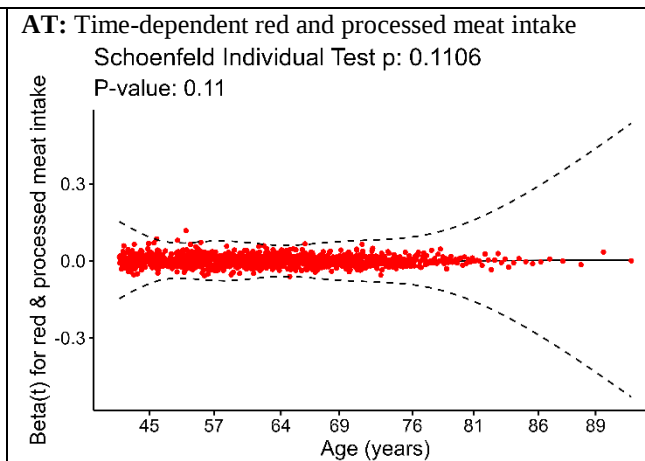
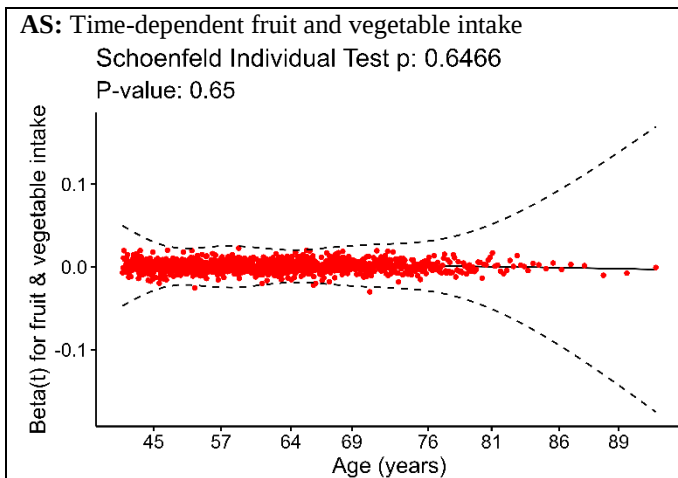












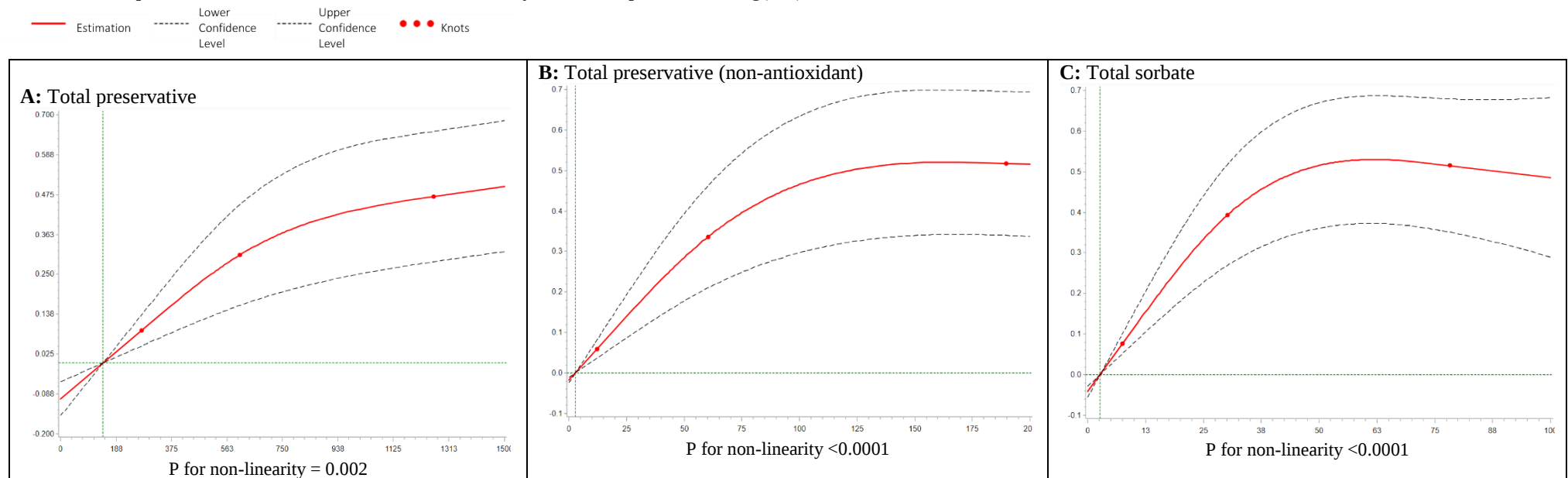
Supplementary Figure 3 – Restricted cubic spline plots of the association between preservative food additive intakes and type 2 diabetes risk in participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723)

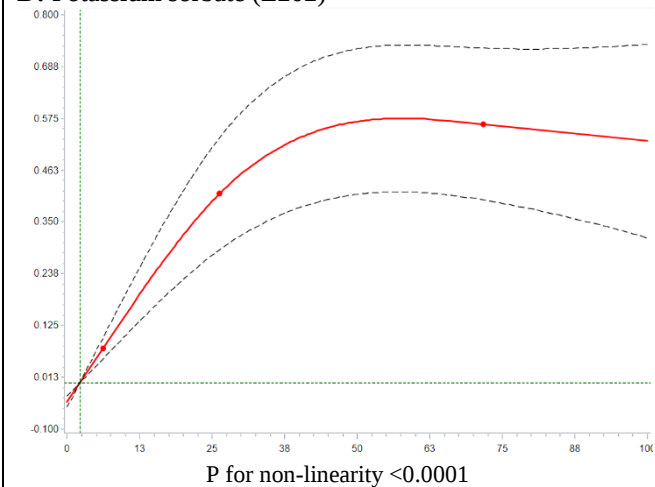
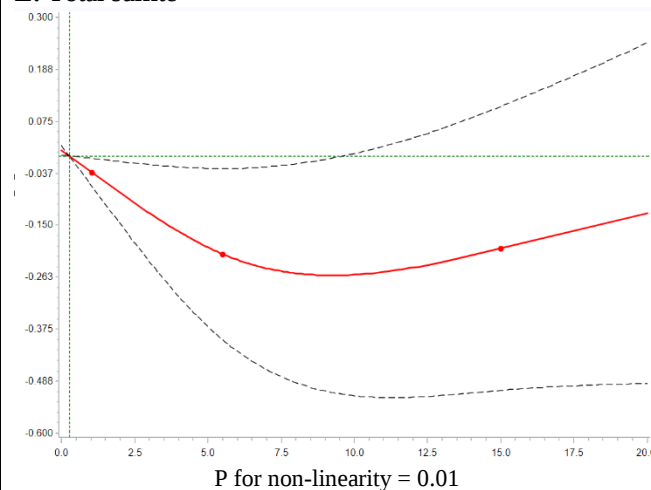
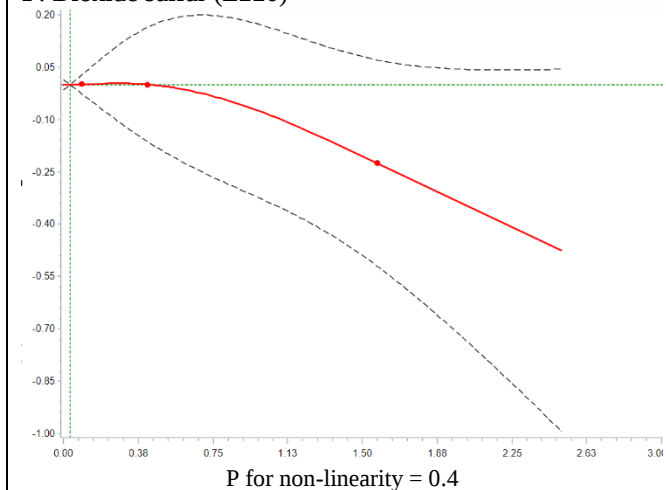
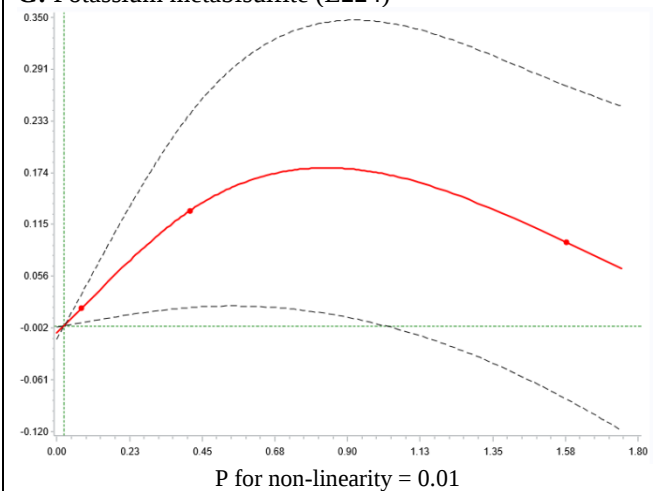
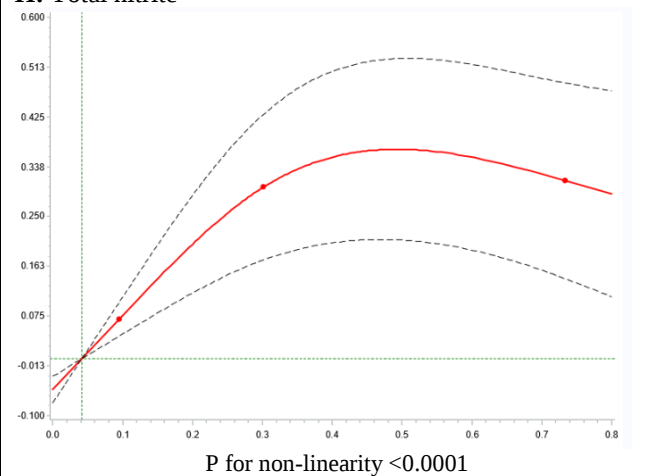
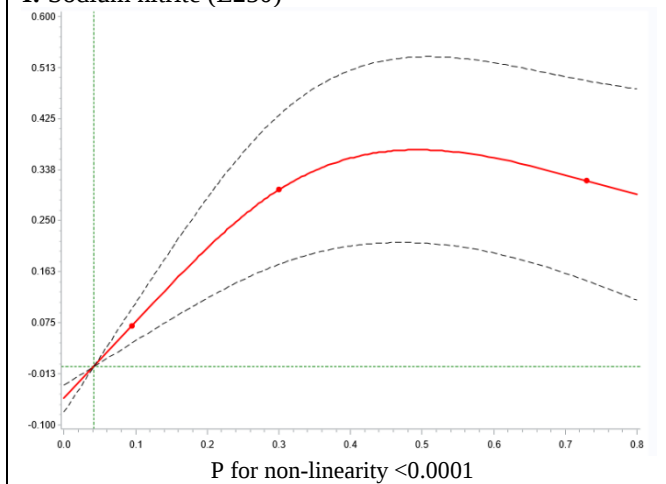
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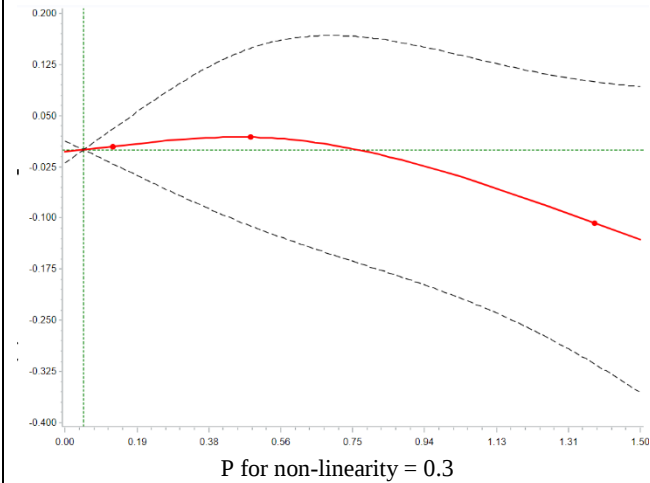
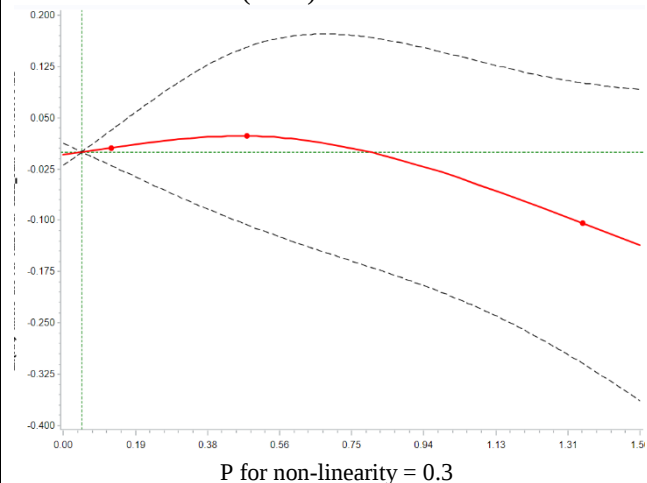
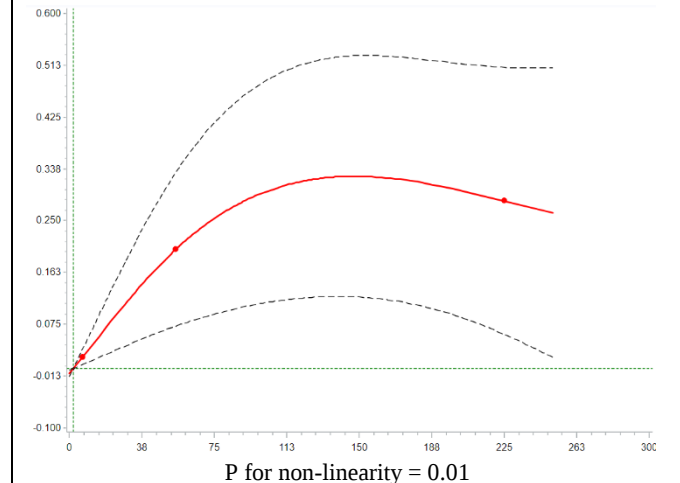
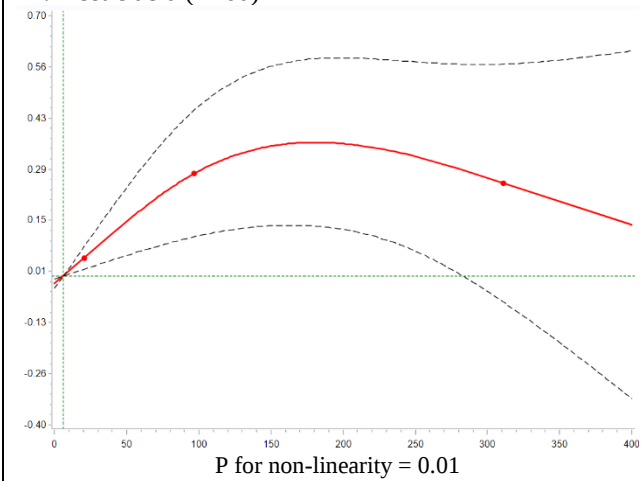
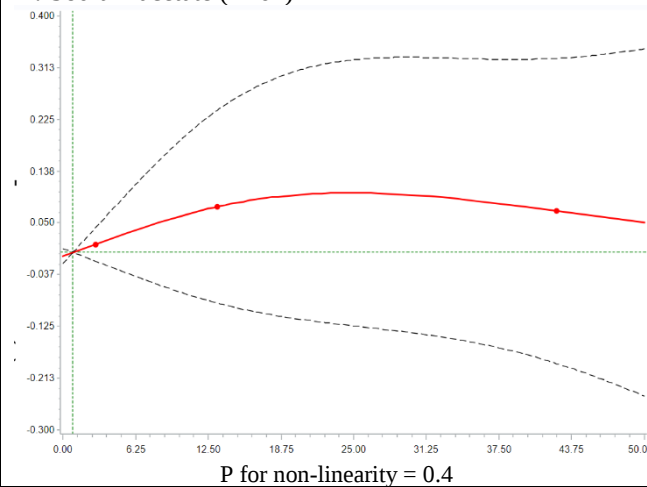
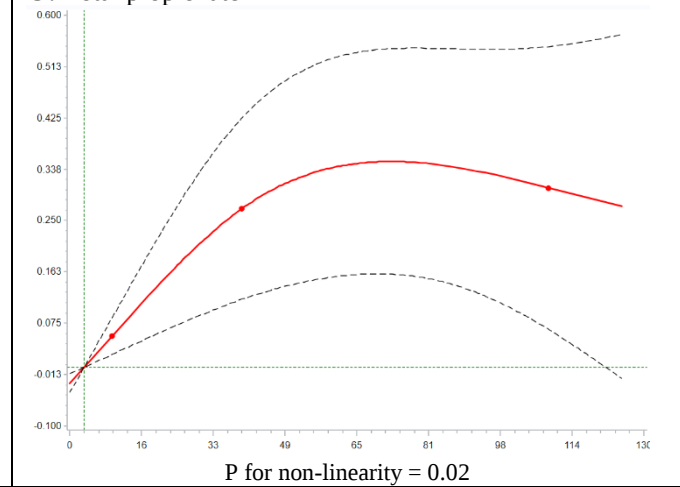
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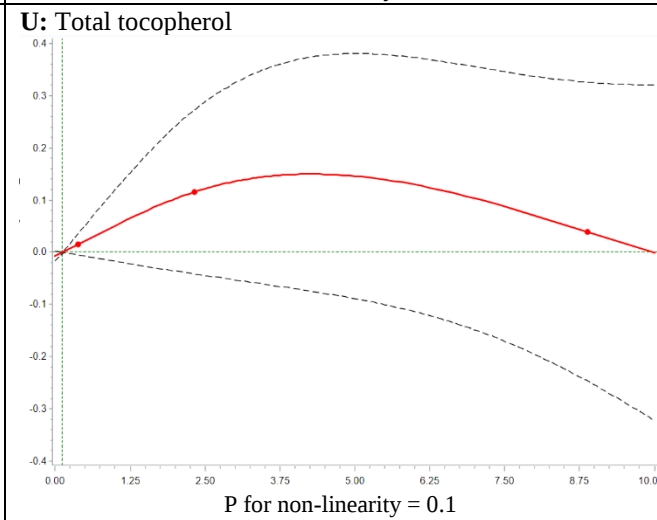
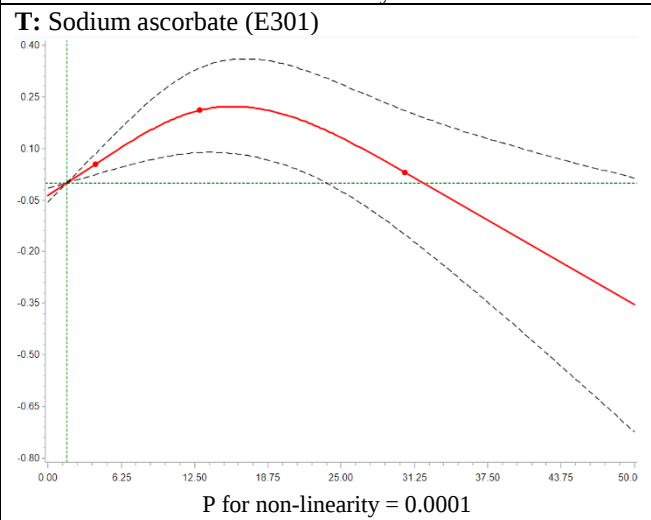
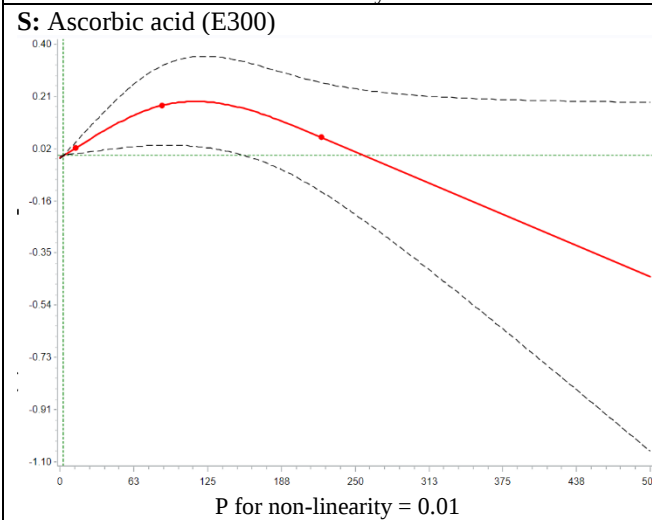
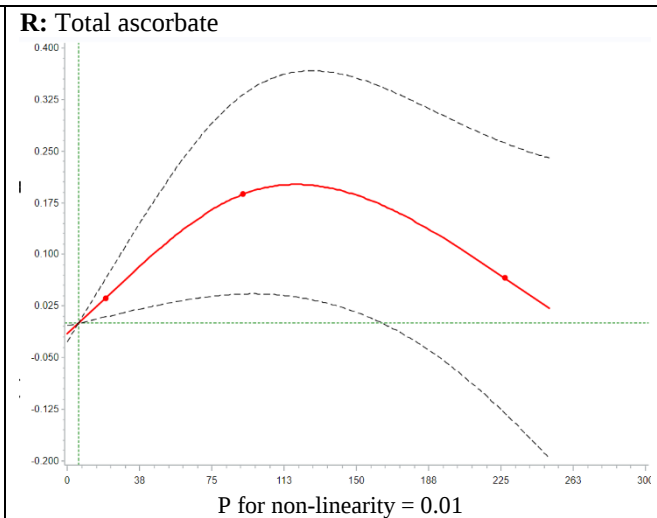
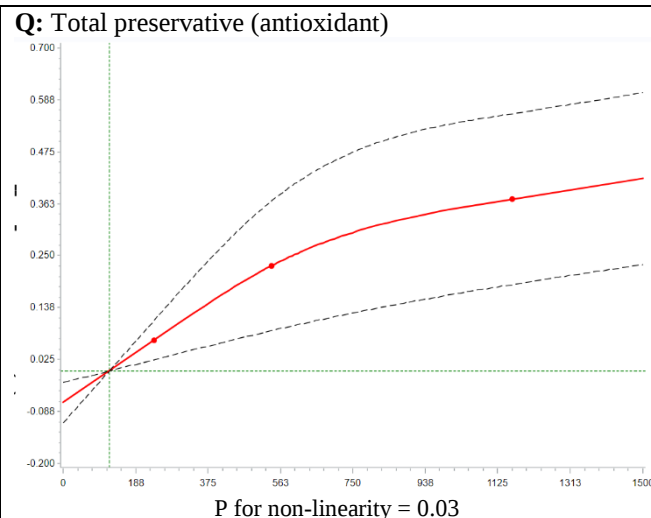
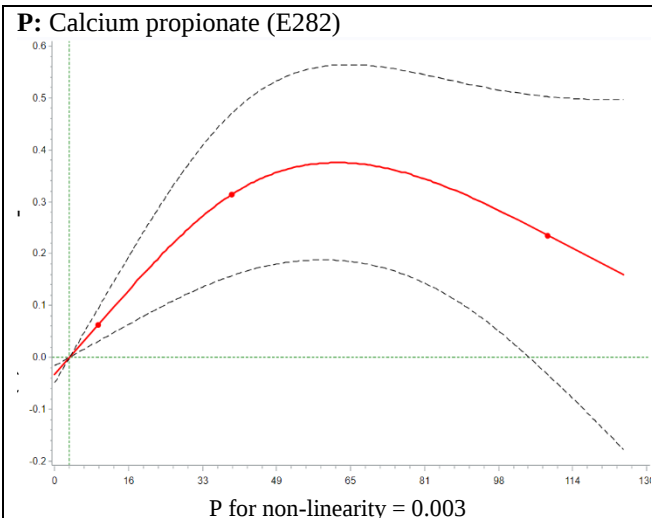
Q: Total preservative (antioxidant). **R:** Total ascorbate. **S:** Ascorbic acid (E300). **T:** Sodium ascorbate (E301). **U:** Total tocopherol. **V:** Tocopherol-rich extract (E306). **W:** Alpha-tocopherol (E307). **X:** Total erythorbate. **Y:** Sodium erythorbate (E316). **Z:** Lecithin (E322). **AA:** Citric acid (E330). **AB:** Phosphoric acid (E338). **AC:** Extracts of rosemary (E392).

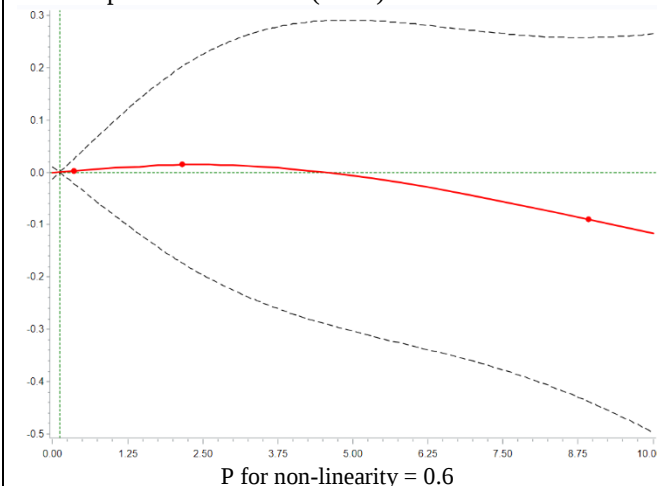
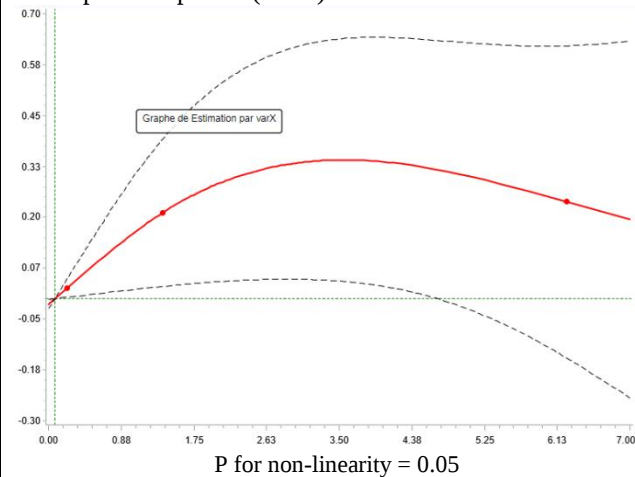
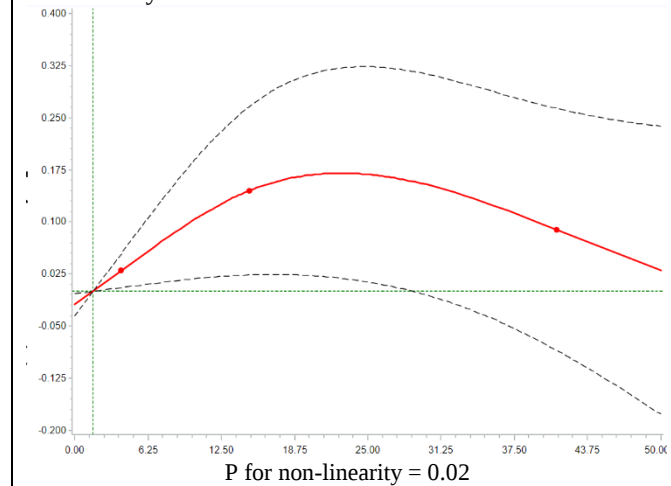
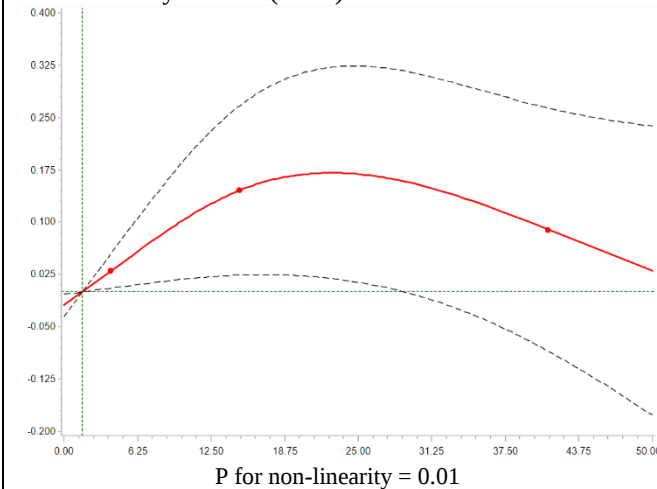
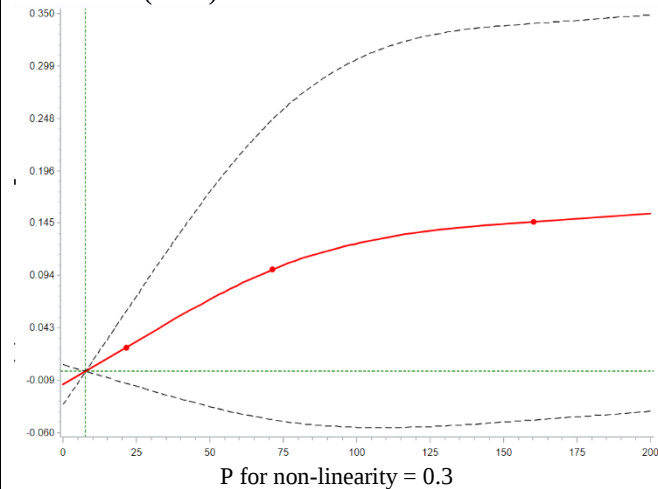
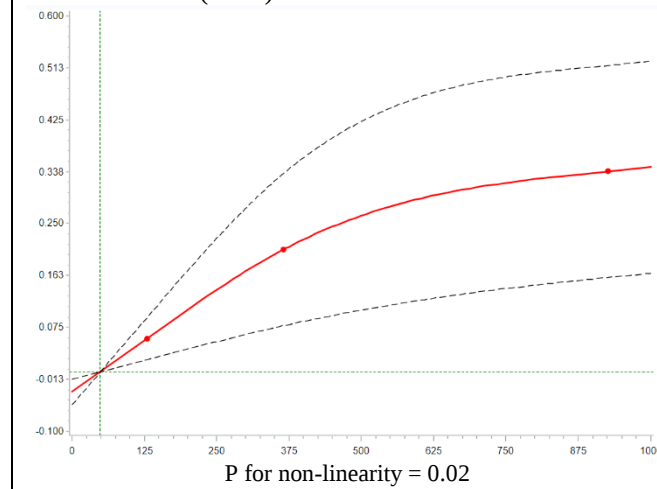
The x-axis corresponds to the intake of the substance, while the y-axis corresponds to the log(HR).



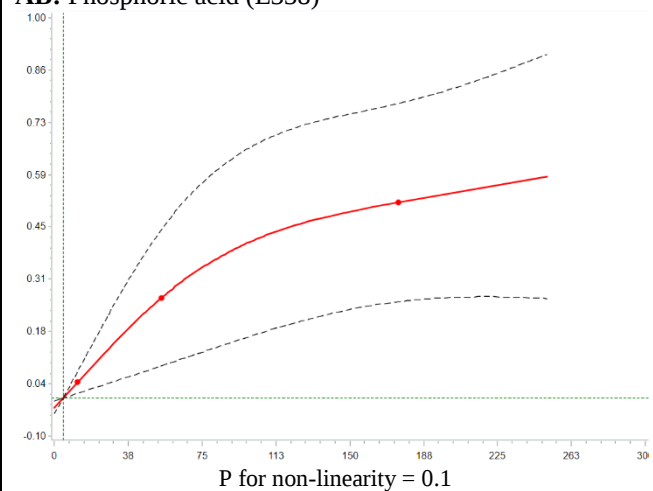
D: Potassium sorbate (E202)**E: Total sulfite****F: Dioxide sulfur (E220)****G: Potassium metabisulfite (E224)****H: Total nitrite****I: Sodium nitrite (E250)**

J: Total nitrate**K: Potassium nitrate (E252)****L: Total acetate****M: Acetic acid (E260)****N: Sodium acetate (E262)****O: Total propionate**

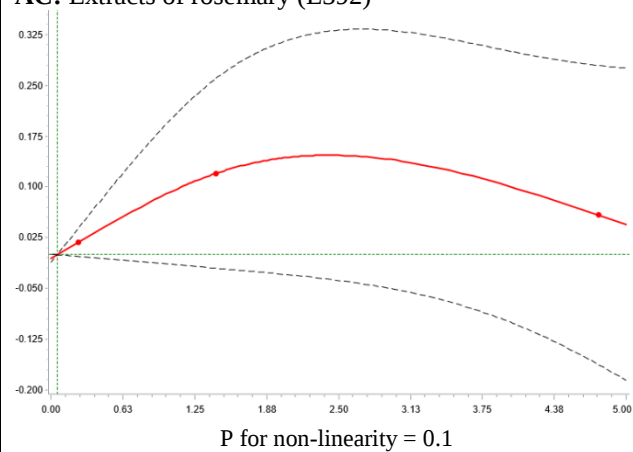


V: Tocopherol-rich extract (E306)**W: Alpha-tocopherol (E307)****X: Total erythorbate****Y: Sodium erythorbate (E316)****Z: Lecithin (E322)****AA: Citric acid (E330)**

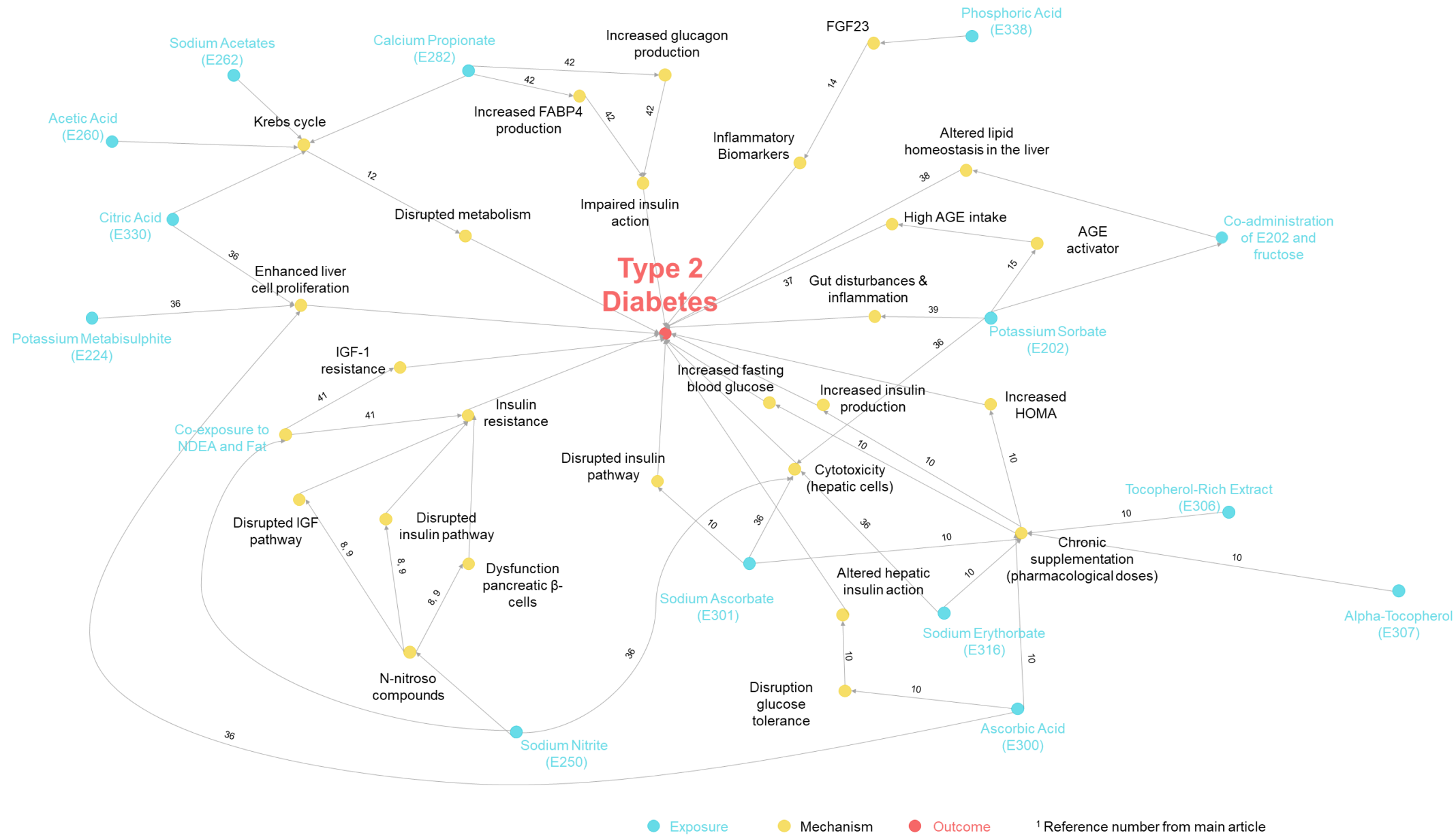
AB: Phosphoric acid (E338)



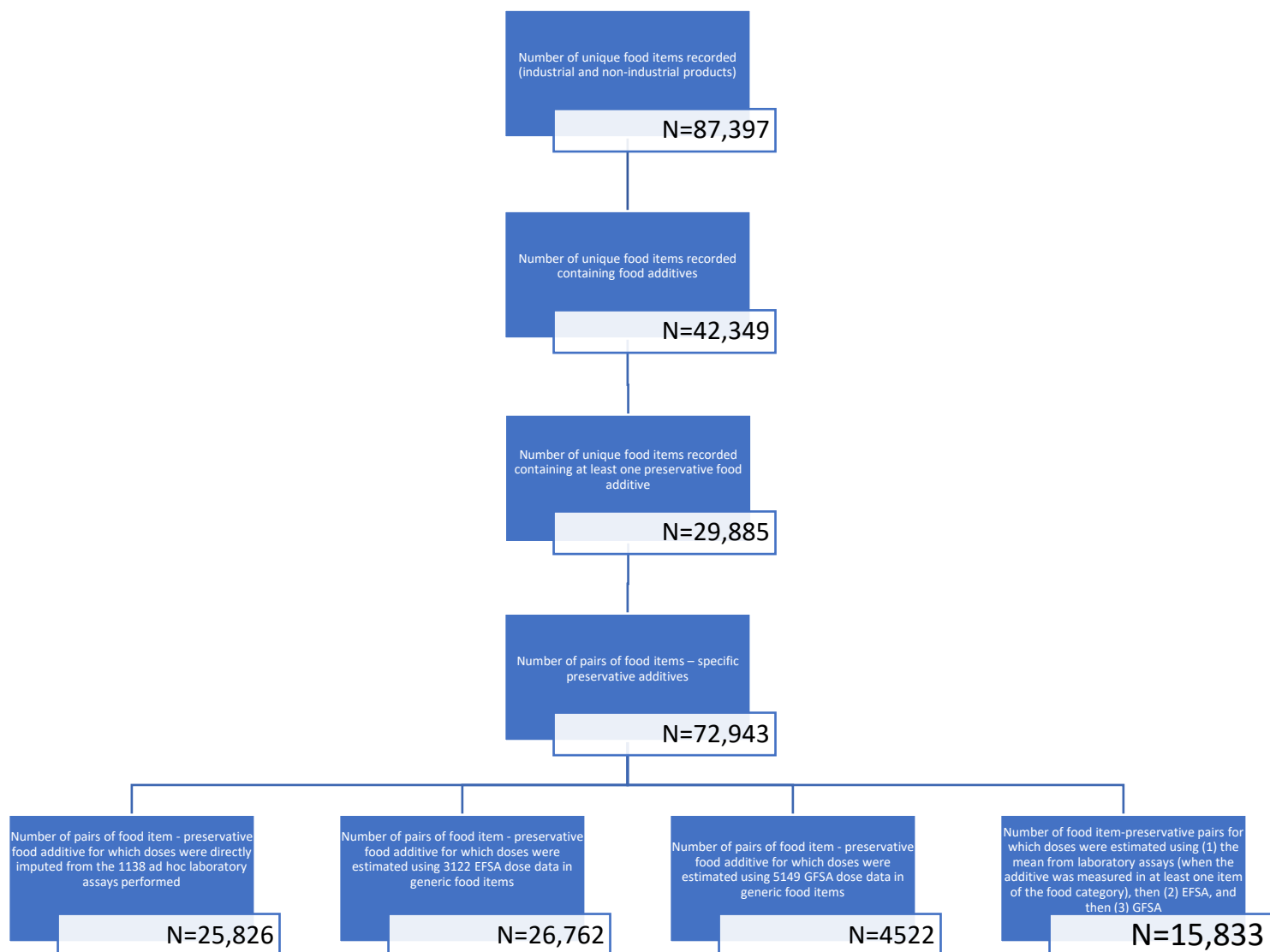
AC: Extracts of rosemary (E392)



Supplementary Figure 4 – Summary of literature (non-exhaustive) on mechanistic plausibility supporting the detected associations between preservative food additive intakes and type 2 diabetes risk



Supplementary Figure 5 – Flowchart on the methods for preservative food additive dose allocation



Supplementary Tables

Supplementary Table 1 – Detailed contributions of food groups (%) to preservative food additive intakes among participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723) ^a

Food Additives\Groups	Alcoholic drinks	Breakfast cereals	Broths	Cakes and biscuits	Confectionery	Dairy desserts	Dairy products	Eggs	Fats and sauces	Fish and seafood	Fruits and vegetables	Meal replacements	Nuts, seeds and dried fruits	Pastries	Potatoes and tubers	Pulses and legumes	Red meat and offals	Poultry	Other Processed meat	Refined grains and cereals	Whole grains and cereals	Sweetened drinks	Unsweetened drinks	Others
Total Preservatives	0.9	0.5	2.4	10.8	7.6	1.6	3.9	1.5	4.1	1.0	25.1	1.2	0.1	2.8	2.6	0.4	0.8	0.7	2.8	4.3	1.2	10.2	10.3	3.1
Total Preservatives (Non-Antioxidant)	7.0	0.0	0.1	2.1	0.1	0.6	7.2	1.2	12.0	4.4	17.3	0.0	0.1	2.1	4.7	1.2	1.0	2.5	4.6	19.6	7.1	0.3	0.4	4.2
Total Sorbates	0.0	0.0	0.0	4.4	0.3	1.5	15.1	1.3	18.9	2.1	22.7	0.0	0.1	0.1	3.7	0.5	1.1	2.0	3.8	15.6	0.9	0.7	0.7	4.5
Potassium Sorbate (E202)	0.0	0.0	0.0	3.1	0.4	1.6	6.2	1.5	21.6	2.4	26.3	0.0	0.1	0.0	4.2	0.6	1.2	2.3	4.4	17.2	0.2	0.7	0.9	5.2
Total Benzoates	0.1	0.0	0.0	0.0	0.1	0.0	0.0	12.1	1.6	0.9	0.2	0.0	0.1	0.0	0.9	0.1	0.1	0.0	2.2	0.1	0.0	4.6	31.2	45.8
Total Sulfites	83.3	0.1	0.8	0.8	0.0	0.0	0.2	0.0	3.6	0.7	3.4	0.0	0.6	0.0	1.1	0.4	0.4	0.1	0.4	0.7	0.0	0.0	0.0	3.4
Sulfur Dioxide (E220)	0.0	0.6	0.0	38.4	0.1	0.0	0.0	0.0	34.8	3.3	4.8	0.1	8.2	0.0	0.0	0.6	0.4	2.9	0.3	5.0	0.0	0.1	0.0	0.2
Potassium Metabisulfite (E224)	0.0	0.0	1.4	0.0	0.0	0.0	0.3	0.1	25.6	5.7	26.2	0.0	0.0	0.0	0.2	5.4	2.3	0.2	2.7	7.1	0.3	0.0	0.0	22.5
Total Nitrites	0.0	0.0	0.1	0.0	0.0	0.0	2.5	1.5	6.7	1.1	10.6	0.0	0.0	0.0	4.9	0.6	3.8	1.3	54.4	9.0	0.1	0.0	0.0	3.2
Sodium Nitrite (E250)	0.0	0.0	0.1	0.0	0.0	0.0	2.5	1.5	6.7	1.1	10.6	0.0	0.0	0.0	4.9	0.6	3.8	1.3	54.5	8.9	0.1	0.0	0.0	3.2
Total Nitrates	0.0	0.0	0.0	0.0	0.0	0.0	2.2	3.8	1.9	0.0	5.9	0.0	0.0	0.0	0.0	0.0	1.5	0.1	76.3	8.0	0.0	0.0	0.0	0.2
Potassium Nitrate (E252)	0.0	0.0	0.0	0.0	0.0	0.0	1.4	4.0	1.7	0.0	4.8	0.0	0.0	0.0	0.0	0.0	1.6	0.1	78.6	7.5	0.0	0.0	0.0	0.2
Total Acetates	0.0	0.0	0.2	0.0	0.0	0.0	2.1	1.9	12.7	10.7	23.7	0.0	0.1	0.0	10.1	3.3	1.5	4.5	5.6	15.7	2.0	0.0	0.0	6.0
Acetic Acid (E260)	0.0	0.0	0.2	0.0	0.0	0.0	0.1	1.1	12.4	12.9	26.7	0.0	0.1	0.0	11.4	4.0	1.4	4.4	2.7	16.4	2.3	0.0	0.0	3.9
Sodium Acetates (E262)	0.0	0.0	0.2	0.1	0.0	0.0	10.0	4.8	13.9	2.0	11.7	0.0	0.1	0.1	4.9	0.3	1.8	4.7	17.1	13.2	0.9	0.0	0.0	14.1
Total Propionates	0.0	0.0	0.0	1.4	0.0	0.0	3.1	0.0	1.4	1.0	2.3	0.0	0.0	10.4	0.0	0.0	0.5	1.5	4.4	42.8	31.1	0.0	0.0	0.0
Calcium Propionate (E282)	0.0	0.0	0.0	1.4	0.0	0.0	3.3	0.0	1.5	1.1	2.4	0.0	0.0	6.5	0.0	0.0	0.5	1.6	4.6	44.6	32.5	0.0	0.0	0.0
Total Preservatives (Antioxidant)	0.2	0.6	2.7	11.9	8.5	1.7	3.5	1.6	3.2	0.6	26.0	1.4	0.1	2.9	2.3	0.3	0.8	0.5	2.6	2.6	0.5	11.3	11.4	2.9
Total Ascorbates	0.0	0.0	0.1	10.4	1.0	0.0	0.7	0.1	1.0	0.2	51.6	0.1	0.2	15.9	0.8	0.1	0.5	0.3	6.3	5.4	2.9	0.8	0.9	0.6
Ascorbic Acid (E300)	0.0	0.0	0.0	11.6	1.1	0.0	0.2	0.0	0.5	0.0	56.8	0.0	0.2	17.8	0.5	0.1	0.3	0.2	0.3	4.9	3.2	0.9	1.0	0.2
Sodium Ascorbate (E301)	0.0	0.0	0.0	0.0	0.0	0.0	4.9	0.9	5.1	1.6	8.1	0.0	0.0	0.0	2.7	0.0	2.2	1.8	58.5	10.3	0.4	0.0	0.0	3.6
Total Tocopherols	0.0	28.9	0.3	19.0	0.8	2.5	1.2	0.0	18.6	0.5	3.4	10.8	0.2	0.0	0.0	0.0	0.3	0.0	0.2	2.5	2.2	2.6	5.9	0.1
Tocopherol-Rich Extract (E306)	0.0	35.4	0.2	15.6	0.8	1.2	0.8	0.0	17.3	0.7	4.4	10.8	0.3	0.0	0.0	0.0	0.4	0.0	0.0	2.4	2.9	0.0	6.6	0.1

Alpha-Tocopherol (E307)	0.0	2.7	0.6	30.5	1.0	6.1	2.4	0.0	24.4	0.0	1.3	12.0	0.0	0.0	0.1	0.0	0.0	0.1	0.8	2.9	0.3	9.8	5.0	0.0
Total Erythorbates	0.0	0.0	0.0	0.0	0.0	0.0	8.4	7.1	10.0	0.0	7.3	0.0	0.0	0.1	5.2	0.2	1.7	0.3	42.7	5.0	0.1	0.0	0.0	11.8
Sodium Erythorbate (E316)	0.0	0.0	0.0	0.0	0.0	0.0	8.4	7.1	10.0	0.0	7.3	0.0	0.0	0.1	5.2	0.2	1.7	0.3	42.7	5.0	0.1	0.0	0.0	11.8
Lecithins (E322)	0.0	4.4	0.0	35.2	30.1	5.5	0.8	0.9	0.8	0.2	2.1	9.1	0.0	4.1	0.7	0.0	0.9	0.4	0.3	1.4	0.2	0.1	0.7	2.1
Total Citrates	0.2	0.1	3.9	8.2	7.4	1.6	4.7	2.0	2.8	0.8	25.9	0.1	0.2	0.1	2.7	0.2	0.8	0.5	1.2	2.2	0.1	15.7	15.1	3.5
Citric Acid (E330)	0.2	0.1	3.9	8.2	7.4	1.6	4.7	2.0	2.8	0.8	25.9	0.1	0.2	0.1	2.7	0.2	0.8	0.5	1.2	2.2	0.1	15.7	15.1	3.5
Phosphoric Acid (E338)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.0	62.9	0.0
Total EDTA	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	91.8	0.6	2.2	0.0	0.0	0.0	0.8	2.4	0.7	0.0	0.5	0.5	0.0	0.1	0.1	0.1
Total Butylates	0.0	1.6	42.6	0.1	0.8	0.0	0.9	0.0	3.5	0.1	35.7	0.0	0.0	0.0	8.5	0.1	0.0	3.8	0.0	0.8	0.0	0.0	0.1	1.4
Extracts Of Rosemary (E392)	0.0	0.5	11.4	3.6	0.0	0.1	5.4	0.2	4.4	0.6	10.0	0.2	0.0	0.0	45.9	0.5	0.9	1.7	4.5	7.1	0.1	0.0	0.5	2.5

^a Groups of preservatives and antioxidants were defined as follows (European codes): total preservatives (E200, E202, E203, E210, E211, E212, E220, E221, E222, E223, E224, E225, E228, E234, E235, E239, E242, E249, E250, E251, E252, E260, E261, E262, E263, E280, E281, E282, E285, E290, E300, E301, E302, E304, E306, E307, E307b, E307c, E310, E315, E316, E319, E320, E321, E322, E325, E326, E330, E332, E333, E334, E338, E385, E386, E392, E472c, E942, E1105), total preservatives (non-antioxidant) (E200, E202, E203, E210, E211, E212, E220, E221, E222, E223, E224, E225, E228, E234, E235, E239, E242, E249, E250, E251, E252, E260, E261, E262, E263, E280, E281, E282, E285, E290, E385, E386, E1105), total sorbates (E200, E202, E203), total benzoates (E210, E211, E212), total sulfites (E220, E221, E222, E223, E224, E225, E228), total nitrites and nitrates (E249, E250, E251, E252), total nitrites (E249, E250), total nitrates (E251, E252), total acetates (E260, E261, E262, E263), total propionates (E280, E281, E282), total preservatives (antioxidant) (E300, E301, E302, E304, E306, E307, E307b, E307c, E310, E315, E316, E319, E320, E321, E322, E325, E326, E330, E332, E333, E334, E338, E385, E386, E392, E472c, E942), total ascorbates (E300, E301, E302, E304), total tocopherols (E306, E307, E307b, E307c), total erythorbates (E315, E316), total butylates (E319, E320, E321), and total EDTA (E385, E386).

^b The “Others” food group includes food items such as herbs and spices, sugar-free sweets and chewing gums, unprepared powders e.g., instant coffee, condiments e.g., mustard, hot pepper sauce, or wasabi.

Supplementary Table 2 – Associations between preservative food additive intakes and type 2 diabetes risk among study participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723) ^a

Food Additive ^{b, c}		Lower consumers	Medium consumers	Higher consumers	p-value ^{d,e}
Total Preservatives	Cases / Participants	350 / 41,505	392 / 42,209	389 / 40,041	<0.001
	HR (95%CI)	1	1.27 (1.09 -1.48)	1.47 (1.26 -1.73)	
Total Preservatives (Non-Antioxidant)	Cases / Participants	300 / 45,179	395 / 44,251	436 / 39,897	<0.001
	HR (95%CI)	1	1.16 (0.98 -1.36)	1.49 (1.27 -1.74)	
Total Sorbates	Cases / Participants	246 / 46,481	389 / 44,684	496 / 39,803	<0.001
	HR (95%CI)	1	1.46 (1.23 -1.74)	1.85 (1.57 -2.18)	
Potassium Sorbate (E202)	Cases / Participants	149 / 37,460	434 / 43,685	548 / 41,990	<0.001
	HR (95%CI)	1	1.74 (1.42 -2.14)	2.15 (1.76 -2.63)	
Total Sulfites	Cases / Participants	323 / 44,259	386 / 42,922	422 / 38,268	0.42
	HR (95%CI)	1	0.98 (0.83 -1.16)	0.88 (0.70 -1.10)	
Sulfur Dioxide (E220)	Cases / Participants	837 / 94,165	177 / 14,425	117 / 12,947	0.85
	HR (95%CI)	1	1.28 (1.08 -1.52)	0.87 (0.72 -1.07)	
Potassium Metabisulfite (E224)	Cases / Participants	364 / 60,414	355 / 33,694	412 / 31,502	<0.001
	HR (95%CI)	1	1.32 (1.13 -1.55)	1.29 (1.10 -1.51)	
Total Nitrites	Cases / Participants	260 / 44,530	399 / 44,061	472 / 40,069	<0.001
	HR (95%CI)	1	1.37 (1.16 -1.62)	1.50 (1.26 -1.78)	
Sodium Nitrite (E250)	Cases / Participants	261 / 44,532	396 / 44,046	474 / 40,110	<0.001
	HR (95%CI)	1	1.35 (1.14 -1.60)	1.50 (1.26 -1.78)	
Total Nitrates	Cases / Participants	521 / 73,307	318 / 27,868	292 / 26,411	0.47
	HR (95%CI)	1	1.21 (1.04 -1.41)	1.03 (0.87 -1.22)	
Potassium Nitrate (E252)	Cases / Participants	521 / 73,316	318 / 27,777	292 / 26,469	0.48
	HR (95%CI)	1	1.21 (1.05 -1.41)	1.03 (0.87 -1.22)	
Total Acetates	Cases / Participants	680 / 88,848	224 / 20,845	227 / 18,423	<0.001
	HR (95%CI)	1	1.33 (1.13 -1.56)	1.36 (1.16 -1.59)	
Acetic Acid (E260)	Cases / Participants	869 / 97,732	134 / 11,814	128 / 10,634	<0.001
	HR (95%CI)	1	1.38 (1.14 -1.66)	1.31 (1.08 -1.60)	
Sodium Acetates (E262)	Cases / Participants	819 / 97,687	167 / 15,481	145 / 13,306	0.003
	HR (95%CI)	1	1.35 (1.14 -1.60)	1.23 (1.01 -1.50)	
Total Propionates	Cases / Participants	698 / 80,738	238 / 23,264	195 / 22,327	<0.001
	HR (95%CI)	1	1.36 (1.17 -1.59)	1.43 (1.21 -1.68)	
Calcium Propionate (E282)	Cases / Participants	710 / 81,292	229 / 22,877	192 / 21,939	<0.001
	HR (95%CI)	1	1.34 (1.15 -1.56)	1.44 (1.22 -1.70)	
Total Preservatives (Antioxidant)	Cases / Participants	359 / 41,677	386 / 42,254	386 / 39,972	<0.001
	HR (95%CI)	1	1.22 (1.05 -1.43)	1.40 (1.19 -1.65)	
Total Ascorbates	Cases / Participants	360 / 44,238	431 / 43,764	340 / 39,709	0.01
	HR (95%CI)	1	1.25 (1.07 -1.45)	1.17 (1.00 -1.38)	
Ascorbic Acid (E300)	Cases / Participants	380 / 45,340	412 / 44,134	339 / 39,648	0.08
	HR (95%CI)	1	1.16 (1.00 -1.35)	1.15 (0.98 -1.35)	
	Cases / Participants	301 / 54,156	406 / 38,329	424 / 37,540	<0.001

Food Additive ^{b, c}		Lower consumers	Medium consumers	Higher consumers	p-value ^{d,e}
Sodium Ascorbate (E301)	HR (95%CI)	1	1.48 (1.26 -1.75)	1.41 (1.19 -1.66)	
Total Tocopherols	Cases / Participants	726 / 83,413	234 / 18,737	171 / 18,204	<0.001
	HR (95%CI)	1	1.33 (1.15 -1.55)	1.27 (1.07 -1.50)	
Tocopherol-Rich Extract (E306)	Cases / Participants	871 / 94,233	155 / 12,856	105 / 12,186	0.04
	HR (95%CI)	1	1.28 (1.07 -1.53)	1.12 (0.91 -1.38)	
Alpha-Tocopherol (E307)	Cases / Participants	898 / 94,825	132 / 9775	101 / 9595	0.001
	HR (95%CI)	1	1.34 (1.11 -1.62)	1.30 (1.05 -1.60)	
Total Erythorbates	Cases / Participants	266 / 51,398	422 / 38,742	443 / 37,176	<0.001
	HR (95%CI)	1	1.53 (1.30 -1.81)	1.42 (1.20 -1.69)	
Sodium Erythorbate (E316)	Cases / Participants	266 / 51,398	421 / 38,747	444 / 37,175	<0.001
	HR (95%CI)	1	1.53 (1.30 -1.80)	1.43 (1.20 -1.69)	
Lecithins (E322)	Cases / Participants	462 / 41,264	390 / 41,419	279 / 39,677	0.10
	HR (95%CI)	1	1.10 (0.95 -1.27)	1.16 (0.96 -1.39)	
Citric Acid (E330)	Cases / Participants	340 / 43,395	388 / 42,790	403 / 39,796	0.003
	HR (95%CI)	1	1.15 (0.98 -1.35)	1.29 (1.11 -1.51)	
Phosphoric Acid (E338)	Cases / Participants	869 / 86,226	138 / 14,683	124 / 15,537	<0.001
	HR (95%CI)	1	1.38 (1.15 -1.66)	1.39 (1.10 -1.75)	
Extracts Of Rosemary (E392)	Cases / Participants	655 / 84,664	239 / 22,431	237 / 20,463	0.01
	HR (95%CI)	1	1.26 (1.08 -1.47)	1.20 (1.02 -1.41)	

^a Multivariable Cox proportional hazard models (two-sided) adjusted for age (time-scale), sex, baseline height (continuous, m), BMI (continuous, kg/m²), physical activity (categorical IPAQ variable: high, moderate, low), smoking status (never smoked, former smoker, smoker), number of smoked cigarettes in pack-years (continuous), educational level (less than high school degree, ≤3 y after high school degree, >3 y after high school degree), family history of diabetes (yes/no), number of dietary records (continuous), time-dependent daily intakes of energy without alcohol (continuous, kcal/d), alcohol (less than 1 unit (8g ethanol) per day, between 1 and 2 units per day, more than 2 units per day), saturated fats (continuous, g/d), sodium (continuous, mg/d), dietary fibre (continuous, g/d), sugars (continuous, g/d), fruits and vegetables (continuous, g/d), dairy products (continuous, g/d), red and processed meats (continuous, g/d), and heme iron (continuous, mg/d, for nitrites and nitrates models only). In addition, when applicable, each model was adjusted for the intake of the corresponding substance coming from natural sources (continuous, mg/d): sulfites for total sulfites, sulfur dioxide (E220), and potassium metabisulfite (E224); nitrites and the sum of natural nitrates and added nitrates for total nitrites, and sodium nitrite (E250); nitrates and the sum of natural and added nitrites for total nitrates, and potassium nitrate (E252); acetic acid for total acetates, acetic acid (E260), and sodium acetates (E262); vitamin C for total ascorbates, ascorbic acid (E300), and sodium ascorbate (E301); vitamin E for total tocopherols, tocopherol-rich extract (E306), and alpha-tocopherol (E307); and citric acid for citric acid (E330). In the main model, 1.06% of participants were censored due to death, 0.10% due to the development of incident type 1 diabetes, 6.90% due cohort drop out, and 90.93% for no event (no type 2 diabetes, type 1 diabetes, death or drop out) before the end of this specific study on 31 December 2023.

^b Groups of preservatives and antioxidants were calculated as the sum of individual preservatives and antioxidants and defined as follows: total preservatives (E200, E202, E203, E210, E211, E212, E220, E221, E222, E223, E224, E225, E228, sulfites from alcoholic drinks, E234, E235, E239, E242, E249, E250, E251, E252, E260, E261, E262, E263, E280, E281, E282, E285, E290, E300, E301, E302, E304, E306, E307, E307b, E307c, E310, E315, E316, E319, E320, E321, E322, E325, E326, E330, E332, E333, E334, E338, E385, E386, E392, E472c, E942, E1105), total preservatives (non-antioxidant) (E200, E202, E203, E210, E211, E212, E220, E221, E222, E223, E224, E225, E228, sulfites from alcoholic drinks, E234, E235, E239, E242, E249, E250, E251, E252, E260, E261, E262, E263, E280, E281, E282, E285, E290, E385, E386, E1105), total sorbates (E200, E202, E203), total sulfites (E220, E221, E222, E223, E224, E225, E228, sulfites from alcoholic drinks), total nitrites (E249, E250), total nitrates (E251, E252), total acetates (E260, E261, E262, E263), total propionates (E280, E281, E282), total preservatives

(antioxidant) (E300, E301, E302, E304, E306, E307, E307b, E307c, E310, E315, E316, E319, E320, E321, E322, E325, E326, E330, E332, E333, E334, E338, E385, E386, E392, E472c, E942), total ascorbates (E300, E301, E302, E304), total tocopherols (E306, E307, E307b, E307c), total erythorbates (E315, E316), and total EDTA (E385, E386).

^c Intakes of preservative food additives were handled as categorical cumulative time-dependent variables, using a time-varying exposure model per two years of follow-up, each containing averaged preservative food additive intakes from the available dietary records within each two-year period. The maximum number of two-year periods was seven, to cover the maximum follow-up period of 14 years.

The 3 additive categories were defined as follows: sex-specific tertiles for total preservatives, total preservatives (non-antioxidant), total sorbates, total sulfites, total nitrites, sodium nitrite (E250), total preservatives (antioxidant), total ascorbates, ascorbic acid (E300), lecithins (E322), and citric acid (E330); and otherwise: 1/ non-consumers, 2/ lower, and 3/ higher consumers, the latter two being separated by the sex-specific median. Cut-offs were recalculated for each period and are available in Supplementary Table 1.

^d When the log-linearity assumption was not rejected (p for non-linearity ≥ 0.05 in the Restricted Cubic Splines models), the p for linear trend was retained (obtained by coding the exposure as an ordinal categorical variable 1, 2, 3) (p -value in *italic*). When the assumption of log-linearity was not met (p for non-linearity < 0.05), it was not adapted to calculate a p for linear trend, thus, the likelihood ratio overall p -value was retained (obtained by coding the exposure as a non-ordinal categorical variable and calculating likelihood ratio test between models with and without the studied food additive exposure variable).

^e Corresponding p -values after false discovery rate (FDR) adjustment: total preservatives ($p < 0.0001$), total preservatives (non-antioxidant) (< 0.0001), total sorbates (< 0.0001), potassium sorbate (E202) (< 0.0001), total sulfites (0.42), sulfur dioxide (E220) (0.85), potassium metabisulfite (E224) (0.0003), total nitrites (< 0.0001), sodium nitrite (E250) (< 0.0001), total nitrates (0.5), potassium nitrate (E252) (0.5), total acetates (< 0.0001), acetic acid (E260) (0.0005), sodium acetates (E262) (0.01), total propionates (< 0.0001), calcium propionate (E282) (< 0.0001), total preservatives (antioxidant) (0.0002), total ascorbates (0.01), ascorbic acid (E300) (0.08), sodium ascorbate (< 0.0001), total tocopherols (0.001), tocopherol-rich extract (E306) (0.05), alpha-tocopherol (E307) (0.001), total erythorbates (< 0.0001), sodium erythorbate (< 0.0001), lecithins (E322) (0.12), citric acid (E330) (0.005), phosphoric acid (E338) (0.001), and extracts of rosemary (E392) (0.01).

Supplementary Table 3 – Sensitivity analyses for the associations between preservative food additive intakes and type 2 diabetes risk among study participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723) ^a

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
Total Preservatives	Model 1	Cases / Participants	-	-	-	-
		HR (95%CI)	-	-	-	
	Model 2	Cases / Participants	350 / 41,505	392 / 42,209	389 / 40,041	<0.001
		HR (95%CI)	1	1.25 (1.07 - 1.45)	1.37 (1.16 - 1.61)	
	Model 3	Cases / Participants	350 / 41,505	392 / 42,209	389 / 40,041	<0.001
		HR (95%CI)	1	1.22 (1.05 -1.42)	1.38 (1.18 -1.62)	
	Model 4	Cases / Participants	350 / 41,505	392 / 42,209	389 / 40,041	<0.001
		HR (95%CI)	1	1.24 (1.06 -1.45)	1.38 (1.16 -1.64)	
	Model 5	Cases / Participants	350 / 41,505	392 / 42,209	389 / 40,041	<0.001
		HR (95%CI)	1	1.26 (1.08 -1.47)	1.47 (1.25 -1.73)	
	Model 6	Cases / Participants	350 / 41,505	392 / 42,209	389 / 40,041	<0.001
		HR (95%CI)	1	1.26 (1.08 -1.47)	1.47 (1.25 -1.72)	
	Model 7	Cases / Participants	350 / 41,505	392 / 42,209	389 / 40,041	<0.001
		HR (95%CI)	1	1.27 (1.09 -1.48)	1.47 (1.25 -1.73)	
	Model 9	Cases / Participants	263 / 31,831	285 / 31,734	288 / 30,990	<0.001
		HR (95%CI)	1	1.17 (0.98 -1.40)	1.35 (1.12 -1.62)	
	Model 10	Cases / Participants	487 / 50,274	529 / 50,279	528 / 47,515	<0.001
		HR (95%CI)	1	1.25 (1.10 -1.43)	1.54 (1.34 -1.76)	
Total Preservatives (non-antioxidant)	Model 11	Cases / Participants	263 / 31,831	285 / 31,734	288 / 30,990	0.02
		HR (95%CI)	1	1.16 (0.96 -1.42)	1.27 (1.04 -1.56)	
	Model 12	Cases / Participants	350 / 41,505	392 / 42,209	389 / 40,041	0.01
		HR (95%CI)	1	1.16 (1.00 - 1.34)	1.32 (1.14 - 1.54)	
	Model 1	Cases / Participants	300 / 45,179	395 / 44,251	436 / 39,897	<0.001
		HR (95%CI)	1	1.15 (0.98 -1.35)	1.46 (1.24 -1.71)	
	Model 2	Cases / Participants	300 / 45,179	395 / 44,251	436 / 39,897	<0.001
		HR (95%CI)	1	1.16 (0.99 - 1.37)	1.46 (1.24 - 1.71)	
	Model 3	Cases / Participants	300 / 45,179	395 / 44,251	436 / 39,897	<0.001
		HR (95%CI)	1	1.14 (0.97 -1.33)	1.42 (1.21 -1.66)	
	Model 4	Cases / Participants	300 / 45,179	395 / 44,251	436 / 39,897	<0.001
		HR (95%CI)	1	1.14 (0.97 -1.35)	1.44 (1.23 -1.70)	
	Model 5	Cases / Participants	300 / 45,179	395 / 44,251	436 / 39,897	<0.001
		HR (95%CI)	1	1.16 (0.98 -1.36)	1.48 (1.26 -1.74)	
	Model 6	Cases / Participants	300 / 45,179	395 / 44,251	436 / 39,897	<0.001
		HR (95%CI)	1	1.15 (0.97 -1.35)	1.47 (1.25 -1.73)	
	Model 7	Cases / Participants	300 / 45,179	395 / 44,251	436 / 39,897	<0.001
		HR (95%CI)	1	1.15 (0.98 -1.36)	1.47 (1.26 -1.73)	
	Model 9	Cases / Participants	233 / 33,804	282 / 32,561	321 / 30,589	0.001
		HR (95%CI)	1	1.07 (0.88 -1.28)	1.37 (1.14 -1.64)	
	Model 10	Cases / Participants	406 / 54,664	549 / 53,072	589 / 47,834	<0.001
		HR (95%CI)	1	1.21 (1.06 -1.39)	1.50 (1.31 -1.72)	

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
	Model 11	Cases / Participants	233 / 33,804	282 / 32,561	321 / 30,589	0.002
		HR (95%CI)	1	1.04 (0.86 -1.26)	1.32 (1.09 -1.59)	
	Model 12	Cases / Participants	300 / 45,179	395 / 44,251	436 / 39,897	0.001
		HR (95%CI)	1	1.12 (0.96 - 1.31)	1.36 (1.17 - 1.59)	
Total Sorbates	Model 1	Cases / Participants	246 / 46,481	389 / 44,684	496 / 39,803	<0.001
		HR (95%CI)	1	1.46 (1.22 -1.73)	1.82 (1.54 -2.14)	
	Model 2	Cases / Participants	246 / 46,481	389 / 44,684	496 / 39,803	<0.001
		HR (95%CI)	1	1.46 (1.23 - 1.74)	1.81 (1.54 - 2.14)	
	Model 3	Cases / Participants	246 / 46,481	389 / 44,684	496 / 39,803	<0.001
		HR (95%CI)	1	1.40 (1.18 -1.65)	1.74 (1.48 -2.05)	
	Model 4	Cases / Participants	246 / 46,481	389 / 44,684	496 / 39,803	<0.001
		HR (95%CI)	1	1.44 (1.21 -1.71)	1.80 (1.53 -2.13)	
	Model 5	Cases / Participants	246 / 46,481	389 / 44,684	496 / 39,803	<0.001
		HR (95%CI)	1	1.46 (1.23 -1.74)	1.85 (1.56 -2.18)	
	Model 6	Cases / Participants	246 / 46,481	389 / 44,684	496 / 39,803	<0.001
		HR (95%CI)	1	1.45 (1.22 -1.73)	1.83 (1.55 -2.17)	
	Model 7	Cases / Participants	246 / 46,481	389 / 44,684	496 / 39,803	<0.001
		HR (95%CI)	1	1.45 (1.22 -1.73)	1.84 (1.56 -2.17)	
	Model 9	Cases / Participants	195 / 34,488	289 / 32,743	352 / 30,615	<0.001
		HR (95%CI)	1	1.38 (1.13 -1.67)	1.64 (1.36 -1.98)	
	Model 10	Cases / Participants	350 / 56,382	529 / 53,343	665 / 47,635	<0.001
		HR (95%CI)	1	1.43 (1.24 -1.66)	1.77 (1.54 -2.04)	
	Model 11	Cases / Participants	195 / 34,488	289 / 32,743	352 / 30,615	<0.001
		HR (95%CI)	1	1.35 (1.10 -1.65)	1.60 (1.32 -1.95)	
	Model 12	Cases / Participants	246 / 46,481	389 / 44,684	496 / 39,803	<0.001
		HR (95%CI)	1	1.39 (1.18 - 1.63)	1.66 (1.42 - 1.94)	
Potassium Sorbate (E202)	Model 1	Cases / Participants	149 / 37,460	434 / 43,685	548 / 41,990	<0.001
		HR (95%CI)	1	1.74 (1.42 -2.13)	2.12 (1.73 -2.59)	
	Model 2	Cases / Participants	149 / 37,460	434 / 43,685	548 / 41,990	<0.001
		HR (95%CI)	1	1.75 (1.43 - 2.15)	2.12 (1.73 - 2.58)	
	Model 3	Cases / Participants	149 / 37,460	434 / 43,685	548 / 41,990	<0.001
		HR (95%CI)	1	1.69 (1.39 -2.07)	2.04 (1.68 -2.47)	
	Model 4	Cases / Participants	149 / 37,460	434 / 43,685	548 / 41,990	<0.001
		HR (95%CI)	1	1.71 (1.39 -2.10)	2.08 (1.70 -2.55)	
	Model 5	Cases / Participants	149 / 37,460	434 / 43,685	548 / 41,990	<0.001
		HR (95%CI)	1	1.73 (1.41 -2.13)	2.14 (1.76 -2.62)	
	Model 6	Cases / Participants	149 / 37,460	434 / 43,685	548 / 41,990	<0.001
		HR (95%CI)	1	1.73 (1.41 -2.12)	2.13 (1.74 -2.61)	
	Model 7	Cases / Participants	149 / 37,460	434 / 43,685	548 / 41,990	<0.001
		HR (95%CI)	1	1.71 (1.39 -2.11)	2.13 (1.74 -2.60)	
	Model 9	Cases / Participants	97 / 22,781	332 / 35,778	407 / 35,137	<0.001
		HR (95%CI)	1	1.67 (1.30 -2.14)	1.96 (1.53 -2.50)	
	Model 10	Cases / Participants	243 / 46,899	586 / 51,348	715 / 49,272	<0.001
		HR (95%CI)	1	1.57 (1.34 -1.85)	1.87 (1.59 -2.19)	
	Model 11	Cases / Participants	97 / 22,781	332 / 35,778	407 / 35,137	<0.001

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
	Model 12	HR (95%CI)	1	1.64 (1.23 -2.18)	1.90 (1.44 -2.51)	<0.001
		Cases / Participants	149 / 37,460	434 / 43,685	548 / 41,990	
		HR (95%CI)	1	1.64 (1.35 - 1.98)	1.92 (1.59 - 2.31)	
Total Sulfites	Model 1	Cases / Participants	323 / 44,259	386 / 42,922	422 / 38,268	0.38
	Model 2	HR (95%CI)	1	0.98 (0.83 -1.16)	0.88 (0.70 -1.10)	0.48
		Cases / Participants	323 / 44,259	386 / 42,922	422 / 38,268	
	Model 3	HR (95%CI)	1	1.00 (0.84 - 1.18)	0.90 (0.72 - 1.12)	0.32
		Cases / Participants	323 / 44,259	386 / 42,922	422 / 38,268	
	Model 4	HR (95%CI)	1	0.95 (0.81 -1.12)	0.86 (0.69 -1.06)	0.26
		Cases / Participants	323 / 44,259	386 / 42,922	422 / 38,268	
	Model 5	HR (95%CI)	1	0.96 (0.82 -1.14)	0.85 (0.68 -1.06)	0.43
		Cases / Participants	323 / 44,259	386 / 42,922	422 / 38,268	
	Model 6	HR (95%CI)	1	0.98 (0.83 -1.16)	0.88 (0.70 -1.11)	0.44
		Cases / Participants	323 / 44,259	386 / 42,922	422 / 38,268	
	Model 7	HR (95%CI)	1	0.98 (0.83 -1.16)	0.88 (0.70 -1.11)	0.38
		Cases / Participants	323 / 44,259	386 / 42,922	422 / 38,268	
	Model 9	HR (95%CI)	1	0.98 (0.83 -1.17)	0.88 (0.70 -1.11)	0.31
		Cases / Participants	249 / 33,600	271 / 32,271	316 / 29,980	
	Model 10	HR (95%CI)	1	0.91 (0.75 -1.11)	0.83 (0.64 -1.08)	0.57
		Cases / Participants	468 / 53,603	516 / 51,871	560 / 45,889	
	Model 11	HR (95%CI)	1	0.95 (0.83 -1.09)	0.91 (0.76 -1.10)	0.11
		Cases / Participants	249 / 33,600	271 / 32,271	316 / 29,980	
	Model 12	HR (95%CI)	1	0.83 (0.57 -1.23)	0.81 (0.51 -1.28)	0.49
		Cases / Participants	323 / 44,259	386 / 42,922	422 / 38,268	
		HR (95%CI)	1	0.95 (0.81 - 1.11)	0.85 (0.70 - 1.04)	
Sulfur Dioxide (E220)	Model 1	Cases / Participants	837 / 94,165	177 / 14,425	117 / 12,947	0.85
		HR (95%CI)	1	1.28 (1.08 -1.52)	0.87 (0.72 -1.06)	
	Model 2	Cases / Participants	837 / 94,165	177 / 14,425	117 / 12,947	0.96
		HR (95%CI)	1	1.30 (1.10 - 1.54)	0.88 (0.72 - 1.08)	
	Model 3	Cases / Participants	837 / 94,165	177 / 14,425	117 / 12,947	0.57
		HR (95%CI)	1	1.25 (1.06 -1.49)	0.85 (0.69 -1.03)	
	Model 4	Cases / Participants	837 / 94,165	177 / 14,425	117 / 12,947	0.72
		HR (95%CI)	1	1.28 (1.08 -1.51)	0.86 (0.70 -1.05)	
	Model 5	Cases / Participants	837 / 94,165	177 / 14,425	117 / 12,947	0.86
		HR (95%CI)	1	1.28 (1.09 -1.52)	0.87 (0.72 -1.07)	
	Model 6	Cases / Participants	837 / 94,165	177 / 14,425	117 / 12,947	0.86
		HR (95%CI)	1	1.28 (1.08 -1.52)	0.87 (0.72 -1.07)	
	Model 7	Cases / Participants	837 / 94,165	177 / 14,425	117 / 12,947	0.78
		HR (95%CI)	1	1.28 (1.08 -1.52)	0.87 (0.71 -1.06)	
	Model 9	Cases / Participants	589 / 70,805	147 / 12,355	100 / 11,837	0.94
		HR (95%CI)	1	1.29 (1.07 -1.55)	0.89 (0.72 -1.11)	
	Model 10	Cases / Participants	1156 / 113,988	229 / 16,475	159 / 14,860	0.55
		HR (95%CI)	1	1.29 (1.11 -1.49)	0.94 (0.79 -1.12)	
	Model 11	Cases / Participants	589 / 70,805	147 / 12,355	100 / 11,837	0.74

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
	Model 12	HR (95%CI)	1	1.26 (1.02 -1.56)	0.87 (0.69 -1.08)	0.97
		Cases / Participants	837 / 94,165	177 / 14,425	117 / 12,947	
		HR (95%CI)	1	1.26 (1.07 - 1.49)	0.88 (0.73 - 1.07)	
Potassium Metabisulfite (E224)	Model 1	Cases / Participants	364 / 60,414	355 / 33,694	412 / 31,502	<0.001
	Model 2	HR (95%CI)	1	1.32 (1.12 -1.54)	1.28 (1.09 -1.49)	<0.001
		Cases / Participants	364 / 60,414	355 / 33,694	412 / 31,502	
	Model 3	HR (95%CI)	1	1.34 (1.14 - 1.57)	1.30 (1.11 - 1.52)	<0.001
		Cases / Participants	364 / 60,414	355 / 33,694	412 / 31,502	
	Model 4	HR (95%CI)	1	1.32 (1.13 -1.54)	1.27 (1.09 -1.49)	<0.001
		Cases / Participants	364 / 60,414	355 / 33,694	412 / 31,502	
	Model 5	HR (95%CI)	1	1.33 (1.13 -1.55)	1.27 (1.09 -1.49)	<0.001
		Cases / Participants	364 / 60,414	355 / 33,694	412 / 31,502	
	Model 6	HR (95%CI)	1	1.32 (1.13 -1.55)	1.29 (1.10 -1.51)	<0.001
		Cases / Participants	364 / 60,414	355 / 33,694	412 / 31,502	
	Model 7	HR (95%CI)	1	1.32 (1.13 -1.55)	1.29 (1.10 -1.51)	<0.001
		Cases / Participants	364 / 60,414	355 / 33,694	412 / 31,502	
	Model 9	HR (95%CI)	1	1.32 (1.13 -1.55)	1.31 (1.12 -1.53)	<0.001
		Cases / Participants	228 / 40,489	280 / 27,667	328 / 27,167	
	Model 10	HR (95%CI)	1	1.41 (1.16 -1.70)	1.35 (1.12 -1.63)	<0.001
		Cases / Participants	517 / 73,858	490 / 39,616	537 / 36,882	
	Model 11	HR (95%CI)	1	1.36 (1.19 -1.55)	1.31 (1.15 -1.49)	0.001
		Cases / Participants	228 / 40,489	280 / 27,667	328 / 27,167	
	Model 12	HR (95%CI)	1	1.37 (1.11 -1.68)	1.30 (1.06 -1.59)	0.001
		Cases / Participants	364 / 60,414	355 / 33,694	412 / 31,502	
		HR (95%CI)	1	1.27 (1.09 - 1.47)	1.23 (1.07 - 1.42)	
Total Nitrites	Model 1	Cases / Participants	260 / 44,530	399 / 44,061	472 / 40,069	<0.001
	Model 2	HR (95%CI)	1	1.36 (1.15 -1.61)	1.48 (1.24 -1.76)	<0.001
		Cases / Participants	260 / 44,530	399 / 44,061	472 / 40,069	
	Model 3	HR (95%CI)	1	1.37 (1.16 - 1.61)	1.46 (1.23 - 1.74)	<0.001
		Cases / Participants	260 / 44,530	399 / 44,061	472 / 40,069	
	Model 4	HR (95%CI)	1	1.32 (1.12 -1.56)	1.45 (1.22 -1.71)	<0.001
		Cases / Participants	260 / 44,530	399 / 44,061	472 / 40,069	
	Model 5	HR (95%CI)	1	1.36 (1.15 -1.61)	1.46 (1.23 -1.74)	<0.001
		Cases / Participants	260 / 44,530	399 / 44,061	472 / 40,069	
	Model 6	HR (95%CI)	1	1.37 (1.16 -1.62)	1.50 (1.26 -1.78)	<0.001
		Cases / Participants	260 / 44,530	399 / 44,061	472 / 40,069	
	Model 7	HR (95%CI)	1	1.36 (1.15 -1.61)	1.49 (1.25 -1.78)	<0.001
		Cases / Participants	260 / 44,530	399 / 44,061	472 / 40,069	
	Model 9	HR (95%CI)	1	1.37 (1.16 -1.62)	1.50 (1.26 -1.78)	0.001
		Cases / Participants	194 / 33,575	294 / 32,491	348 / 30,808	
	Model 10	HR (95%CI)	1	1.34 (1.10 -1.62)	1.42 (1.16 -1.73)	<0.001
		Cases / Participants	373 / 53,724	558 / 52,728	613 / 47,955	
	Model 11	HR (95%CI)	1	1.35 (1.17 -1.54)	1.40 (1.21 -1.61)	<0.001
		Cases / Participants	194 / 33,575	294 / 32,491	348 / 30,808	
		HR (95%CI)	1	1.35 (1.09 -1.68)	1.42 (1.15 -1.76)	

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
Sodium Nitrite (E250)	Model 12	Cases / Participants	260 / 44,530	399 / 44,061	472 / 40,069	<0.001
		HR (95%CI)	1	1.26 (1.08 - 1.48)	1.36 (1.16 - 1.59)	
	Model 1	Cases / Participants	261 / 44,532	396 / 44,046	474 / 40,110	<0.001
		HR (95%CI)	1	1.35 (1.14 -1.59)	1.48 (1.24 -1.76)	
	Model 2	Cases / Participants	261 / 44,532	396 / 44,046	474 / 40,110	<0.001
		HR (95%CI)	1	1.35 (1.14 - 1.60)	1.46 (1.23 - 1.74)	
	Model 3	Cases / Participants	261 / 44,532	396 / 44,046	474 / 40,110	<0.001
		HR (95%CI)	1	1.31 (1.11 -1.54)	1.45 (1.23 -1.72)	
	Model 4	Cases / Participants	261 / 44,532	396 / 44,046	474 / 40,110	<0.001
		HR (95%CI)	1	1.34 (1.14 -1.59)	1.46 (1.23 -1.74)	
	Model 5	Cases / Participants	261 / 44,532	396 / 44,046	474 / 40,110	<0.001
		HR (95%CI)	1	1.35 (1.14 -1.60)	1.50 (1.26 -1.78)	
	Model 6	Cases / Participants	261 / 44,532	396 / 44,046	474 / 40,110	<0.001
		HR (95%CI)	1	1.35 (1.14 -1.59)	1.49 (1.25 -1.77)	
	Model 7	Cases / Participants	261 / 44,532	396 / 44,046	474 / 40,110	<0.001
		HR (95%CI)	1	1.36 (1.15 -1.61)	1.50 (1.26 -1.78)	
	Model 9	Cases / Participants	195 / 33,575	291 / 32,477	350 / 30,787	0.001
		HR (95%CI)	1	1.32 (1.08 -1.59)	1.42 (1.16 -1.73)	
	Model 10	Cases / Participants	372 / 53,712	557 / 52,726	615 / 47,952	<0.001
		HR (95%CI)	1	1.35 (1.17 -1.55)	1.41 (1.22 -1.62)	
	Model 11	Cases / Participants	195 / 33,575	291 / 32,477	350 / 30,787	<0.001
		HR (95%CI)	1	1.33 (1.07 -1.65)	1.42 (1.15 -1.76)	
	Model 12	Cases / Participants	261 / 44,532	396 / 44,046	474 / 40,110	0.001
		HR (95%CI)	1	1.25 (1.07 - 1.46)	1.36 (1.16 - 1.59)	
Total Nitrates	Model 1	Cases / Participants	521 / 73,307	318 / 27,868	292 / 26,411	0.44
		HR (95%CI)	1	1.22 (1.05 -1.42)	1.03 (0.88 -1.22)	
	Model 2	Cases / Participants	521 / 73,307	318 / 27,868	292 / 26,411	0.32
		HR (95%CI)	1	1.25 (1.07 - 1.45)	1.05 (0.89 - 1.24)	
	Model 3	Cases / Participants	521 / 73,307	318 / 27,868	292 / 26,411	0.38
		HR (95%CI)	1	1.21 (1.04 -1.40)	1.05 (0.89 -1.23)	
	Model 4	Cases / Participants	521 / 73,307	318 / 27,868	292 / 26,411	0.38
		HR (95%CI)	1	1.22 (1.05 -1.42)	1.05 (0.89 -1.23)	
	Model 5	Cases / Participants	521 / 73,307	318 / 27,868	292 / 26,411	0.46
		HR (95%CI)	1	1.21 (1.04 -1.41)	1.03 (0.88 -1.22)	
	Model 6	Cases / Participants	521 / 73,307	318 / 27,868	292 / 26,411	0.46
		HR (95%CI)	1	1.21 (1.04 -1.41)	1.03 (0.88 -1.22)	
	Model 7	Cases / Participants	521 / 73,307	318 / 27,868	292 / 26,411	0.45
		HR (95%CI)	1	1.21 (1.05 -1.41)	1.04 (0.88 -1.22)	
	Model 9	Cases / Participants	348 / 50,899	256 / 23,030	232 / 23,157	0.90
		HR (95%CI)	1	1.20 (1.01 -1.42)	0.97 (0.80 -1.17)	
	Model 10	Cases / Participants	764 / 90,569	410 / 31,740	370 / 30,225	0.24
		HR (95%CI)	1	1.21 (1.07 -1.37)	1.05 (0.91 -1.21)	
	Model 11	Cases / Participants	348 / 50,899	256 / 23,030	232 / 23,157	0.61
		HR (95%CI)	1	1.12 (0.92 -1.35)	0.92 (0.75 -1.14)	
	Model 12	Cases / Participants	521 / 73,307	318 / 27,868	292 / 26,411	0.17

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
HR (95%CI)			1	1.19 (1.03 - 1.38)	1.06 (0.91 - 1.24)	
Potassium Nitrate (E252)	Model 1	Cases / Participants	521 / 73,316	318 / 27,777	292 / 26,469	0.45
		HR (95%CI)	1	1.22 (1.06 -1.42)	1.03 (0.88 -1.22)	
	Model 2	Cases / Participants	521 / 73,316	318 / 27,777	292 / 26,469	0.33
		HR (95%CI)	1	1.25 (1.08 - 1.45)	1.05 (0.89 - 1.24)	
	Model 3	Cases / Participants	521 / 73,316	318 / 27,777	292 / 26,469	0.38
		HR (95%CI)	1	1.21 (1.04 -1.41)	1.05 (0.89 -1.23)	
	Model 4	Cases / Participants	521 / 73,316	318 / 27,777	292 / 26,469	0.39
		HR (95%CI)	1	1.22 (1.05 -1.42)	1.04 (0.89 -1.23)	
	Model 5	Cases / Participants	521 / 73,316	318 / 27,777	292 / 26,469	0.47
		HR (95%CI)	1	1.22 (1.05 -1.41)	1.03 (0.87 -1.22)	
	Model 6	Cases / Participants	521 / 73,316	318 / 27,777	292 / 26,469	0.47
		HR (95%CI)	1	1.22 (1.05 -1.41)	1.03 (0.87 -1.22)	
	Model 7	Cases / Participants	521 / 73,316	318 / 27,777	292 / 26,469	0.46
		HR (95%CI)	1	1.22 (1.05 -1.41)	1.03 (0.88 -1.22)	
	Model 9	Cases / Participants	348 / 50,907	256 / 23,032	232 / 23,165	0.90
		HR (95%CI)	1	1.20 (1.01 -1.42)	0.97 (0.80 -1.17)	
	Model 10	Cases / Participants	764 / 90,583	410 / 31,808	370 / 30,229	0.24
		HR (95%CI)	1	1.21 (1.07 -1.38)	1.05 (0.91 -1.21)	
	Model 11	Cases / Participants	348 / 50,907	256 / 23,032	232 / 23,165	0.62
		HR (95%CI)	1	1.12 (0.93 -1.36)	0.92 (0.75 -1.14)	
	Model 12	Cases / Participants	521 / 73,316	318 / 27,777	292 / 26,469	0.18
		HR (95%CI)	1	1.19 (1.03 - 1.38)	1.06 (0.91 - 1.24)	
Total Acetates	Model 1	Cases / Participants	680 / 88,848	224 / 20,845	227 / 18,423	<0.001
		HR (95%CI)	1	1.33 (1.13 -1.56)	1.34 (1.14 -1.57)	
	Model 2	Cases / Participants	680 / 88,848	224 / 20,845	227 / 18,423	<0.001
		HR (95%CI)	1	1.36 (1.16 - 1.59)	1.35 (1.15 - 1.59)	
	Model 3	Cases / Participants	680 / 88,848	224 / 20,845	227 / 18,423	<0.001
		HR (95%CI)	1	1.35 (1.16 -1.58)	1.36 (1.16 -1.59)	
	Model 4	Cases / Participants	680 / 88,848	224 / 20,845	227 / 18,423	<0.001
		HR (95%CI)	1	1.33 (1.14 -1.56)	1.35 (1.15 -1.58)	
	Model 5	Cases / Participants	680 / 88,848	224 / 20,845	227 / 18,423	<0.001
		HR (95%CI)	1	1.33 (1.13 -1.56)	1.36 (1.16 -1.59)	
	Model 6	Cases / Participants	680 / 88,848	224 / 20,845	227 / 18,423	<0.001
		HR (95%CI)	1	1.33 (1.13 -1.56)	1.36 (1.16 -1.59)	
	Model 7	Cases / Participants	680 / 88,848	224 / 20,845	227 / 18,423	<0.001
		HR (95%CI)	1	1.32 (1.13 -1.55)	1.34 (1.15 -1.57)	
	Model 9	Cases / Participants	457 / 63,422	190 / 17,841	189 / 16,804	<0.001
		HR (95%CI)	1	1.33 (1.11 -1.59)	1.32 (1.11 -1.58)	
	Model 10	Cases / Participants	965 / 107,778	293 / 24,063	286 / 21,266	<0.001
		HR (95%CI)	1	1.33 (1.16 -1.52)	1.32 (1.15 -1.52)	
	Model 11	Cases / Participants	457 / 63,422	190 / 17,841	189 / 16,804	0.01
		HR (95%CI)	1	1.27 (1.04 -1.54)	1.22 (1.01 -1.47)	
	Model 12	Cases / Participants	680 / 88,848	224 / 20,845	227 / 18,423	<0.001
		HR (95%CI)	1	1.28 (1.09 - 1.49)	1.28 (1.09 - 1.49)	

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
Acetic Acid (E260)	Model 1	Cases / Participants	869 / 97,732	134 / 11,814	128 / 10,634	<0.001
		HR (95%CI)	1	1.37 (1.14 -1.65)	1.29 (1.06 -1.56)	
	Model 2	Cases / Participants	869 / 97,732	134 / 11,814	128 / 10,634	<0.001
		HR (95%CI)	1	1.38 (1.15 - 1.67)	1.30 (1.07 - 1.57)	
	Model 3	Cases / Participants	869 / 97,732	134 / 11,814	128 / 10,634	0.001
		HR (95%CI)	1	1.37 (1.13 -1.65)	1.28 (1.05 -1.57)	
	Model 4	Cases / Participants	869 / 97,732	134 / 11,814	128 / 10,634	0.001
		HR (95%CI)	1	1.37 (1.14 -1.66)	1.30 (1.07 -1.58)	
	Model 5	Cases / Participants	869 / 97,732	134 / 11,814	128 / 10,634	<0.001
		HR (95%CI)	1	1.38 (1.14 -1.66)	1.31 (1.08 -1.59)	
	Model 6	Cases / Participants	869 / 97,732	134 / 11,814	128 / 10,634	<0.001
		HR (95%CI)	1	1.38 (1.14 -1.66)	1.31 (1.08 -1.59)	
	Model 7	Cases / Participants	869 / 97,732	134 / 11,814	128 / 10,634	<0.001
		HR (95%CI)	1	1.36 (1.13 -1.64)	1.30 (1.08 -1.58)	
	Model 9	Cases / Participants	617 / 75,104	104 / 10,046	115 / 9,519	0.003
		HR (95%CI)	1	1.25 (1.01 -1.55)	1.37 (1.11 -1.68)	
	Model 10	Cases / Participants	1210 / 118,132	167 / 13,666	167 / 12,301	<0.001
		HR (95%CI)	1	1.33 (1.13 -1.57)	1.32 (1.11 -1.57)	
	Model 11	Cases / Participants	617 / 75,104	104 / 10,046	115 / 9,519	0.01
		HR (95%CI)	1	1.31 (1.03 -1.65)	1.27 (1.02 -1.58)	
	Model 12	Cases / Participants	869 / 97,732	134 / 11,814	128 / 10,634	0.004
		HR (95%CI)	1	1.31 (1.09 - 1.58)	1.24 (1.02 - 1.50)	
Sodium Acetates (E262)	Model 1	Cases / Participants	819 / 97,687	167 / 15,481	145 / 13,306	0.004
		HR (95%CI)	1	1.35 (1.14 -1.61)	1.22 (1.00 -1.49)	
	Model 2	Cases / Participants	819 / 97,687	167 / 15,481	145 / 13,306	0.001
		HR (95%CI)	1	1.38 (1.16 - 1.64)	1.26 (1.03 - 1.53)	
	Model 3	Cases / Participants	819 / 97,687	167 / 15,481	145 / 13,306	0.001
		HR (95%CI)	1	1.35 (1.14 -1.61)	1.27 (1.05 -1.53)	
	Model 4	Cases / Participants	819 / 97,687	167 / 15,481	145 / 13,306	0.004
		HR (95%CI)	1	1.35 (1.14 -1.61)	1.22 (1.00 -1.49)	
	Model 5	Cases / Participants	819 / 97,687	167 / 15,481	145 / 13,306	0.001
		HR (95%CI)	1	1.35 (1.14 -1.60)	1.23 (1.00 -1.50)	
	Model 6	Cases / Participants	819 / 97,687	167 / 15,481	145 / 13,306	0.003
		HR (95%CI)	1	1.35 (1.14 -1.60)	1.23 (1.01 -1.50)	
	Model 7	Cases / Participants	819 / 97,687	167 / 15,481	145 / 13,306	0.004
		HR (95%CI)	1	1.34 (1.13 -1.59)	1.22 (1.00 -1.48)	
	Model 9	Cases / Participants	561 / 72,028	148 / 13,462	127 / 12,561	0.01
		HR (95%CI)	1	1.38 (1.14 -1.66)	1.23 (1.00 -1.53)	
	Model 10	Cases / Participants	1153 / 118,126	215 / 17,556	176 / 15,219	0.004
		HR (95%CI)	1	1.36 (1.17 -1.58)	1.16 (0.98 -1.39)	
	Model 11	Cases / Participants	561 / 72,028	148 / 13,462	127 / 12,561	0.03
		HR (95%CI)	1	1.27 (1.03 -1.58)	1.20 (0.96 -1.49)	
	Model 12	Cases / Participants	819 / 97,687	167 / 15,481	145 / 13,306	0.002
		HR (95%CI)	1	1.28 (1.08 - 1.52)	1.22 (1.01 - 1.46)	

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
Total Propionates	Model 1	Cases / Participants	698 / 80,738	238 / 23,264	195 / 22,327	<0.001
		HR (95%CI)	1	1.37 (1.17 -1.59)	1.41 (1.20 -1.67)	
	Model 2	Cases / Participants	698 / 80,738	238 / 23,264	195 / 22,327	<0.001
		HR (95%CI)	1	1.37 (1.17 - 1.59)	1.39 (1.18 - 1.64)	
	Model 3	Cases / Participants	698 / 80,738	238 / 23,264	195 / 22,327	<0.001
		HR (95%CI)	1	1.36 (1.16 -1.58)	1.42 (1.21 -1.68)	
	Model 4	Cases / Participants	698 / 80,738	238 / 23,264	195 / 22,327	<0.001
		HR (95%CI)	1	1.36 (1.17 -1.58)	1.40 (1.18 -1.65)	
	Model 5	Cases / Participants	698 / 80,738	238 / 23,264	195 / 22,327	<0.001
		HR (95%CI)	1	1.36 (1.17 -1.58)	1.42 (1.20 -1.68)	
	Model 6	Cases / Participants	698 / 80,738	238 / 23,264	195 / 22,327	<0.001
		HR (95%CI)	1	1.36 (1.17 -1.59)	1.42 (1.21 -1.68)	
	Model 7	Cases / Participants	698 / 80,738	238 / 23,264	195 / 22,327	<0.001
		HR (95%CI)	1	1.34 (1.15 -1.56)	1.38 (1.17 -1.63)	
	Model 9	Cases / Participants	480 / 58,932	190 / 19,307	166 / 19,332	<0.001
		HR (95%CI)	1	1.32 (1.11 -1.57)	1.45 (1.21 -1.74)	
	Model 10	Cases / Participants	975 / 98,133	311 / 27,123	258 / 25,969	0.001
		HR (95%CI)	1	1.34 (1.17 -1.53)	1.38 (1.19 -1.60)	
	Model 11	Cases / Participants	480 / 58,932	190 / 19,307	166 / 19,332	<0.001
		HR (95%CI)	1	1.27 (1.05 -1.53)	1.39 (1.15 -1.68)	
	Model 12	Cases / Participants	698 / 80,738	238 / 23,264	195 / 22,327	<0.001
		HR (95%CI)	1	1.28 (1.11 - 1.49)	1.36 (1.16 - 1.60)	
Calcium Propionate (E282)	Model 1	Cases / Participants	710 / 81,292	229 / 22,877	192 / 21,939	<0.001
		HR (95%CI)	1	1.34 (1.15 -1.57)	1.43 (1.21 -1.68)	
	Model 2	Cases / Participants	710 / 81,292	229 / 22,877	192 / 21,939	<0.001
		HR (95%CI)	1	1.34 (1.15 - 1.57)	1.40 (1.19 - 1.66)	
	Model 3	Cases / Participants	710 / 81,292	229 / 22,877	192 / 21,939	<0.001
		HR (95%CI)	1	1.33 (1.14 -1.56)	1.44 (1.22 -1.70)	
	Model 4	Cases / Participants	710 / 81,292	229 / 22,877	192 / 21,939	<0.001
		HR (95%CI)	1	1.34 (1.15 -1.56)	1.41 (1.19 -1.67)	
	Model 5	Cases / Participants	710 / 81,292	229 / 22,877	192 / 21,939	<0.001
		HR (95%CI)	1	1.34 (1.15 -1.56)	1.44 (1.22 -1.70)	
	Model 6	Cases / Participants	710 / 81,292	229 / 22,877	192 / 21,939	<0.001
		HR (95%CI)	1	1.34 (1.15 -1.56)	1.44 (1.22 -1.70)	
	Model 7	Cases / Participants	710 / 81,292	229 / 22,877	192 / 21,939	<0.001
		HR (95%CI)	1	1.31 (1.13 -1.53)	1.39 (1.18 -1.64)	
	Model 9	Cases / Participants	489 / 59,412	182 / 18,971	165 / 19,020	<0.001
		HR (95%CI)	1	1.29 (1.08 -1.54)	1.48 (1.23 -1.78)	
	Model 10	Cases / Participants	988 / 98,825	302 / 26,646	254 / 25,494	<0.001
		HR (95%CI)	1	1.34 (1.17 -1.53)	1.40 (1.20 -1.62)	
	Model 11	Cases / Participants	489 / 59,412	182 / 18,971	165 / 19,020	<0.001
		HR (95%CI)	1	1.23 (1.01 -1.49)	1.42 (1.17 -1.72)	
	Model 12	Cases / Participants	710 / 81,292	229 / 22,877	192 / 21,939	<0.001
		HR (95%CI)	1	1.27 (1.09 - 1.47)	1.38 (1.17 - 1.62)	
	Model 1	Cases / Participants	359 / 41,677	386 / 42,254	386 / 39,972	0.001

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
Total Preservatives (Antioxidant)	Model 2	HR (95%CI)	1	1.21 (1.04 -1.41)	1.35 (1.15 -1.59)	0.002
		Cases / Participants	359 / 41,677	386 / 42,254	386 / 39,972	
	Model 3	HR (95%CI)	1	1.21 (1.04 - 1.41)	1.31 (1.11 - 1.54)	0.002
		Cases / Participants	359 / 41,677	386 / 42,254	386 / 39,972	
	Model 4	HR (95%CI)	1	1.18 (1.02 -1.38)	1.32 (1.12 -1.55)	0.005
		Cases / Participants	359 / 41,677	386 / 42,254	386 / 39,972	
	Model 5	HR (95%CI)	1	1.20 (1.02 -1.40)	1.30 (1.10 -1.54)	<0.001
		Cases / Participants	359 / 41,677	386 / 42,254	386 / 39,972	
	Model 6	HR (95%CI)	1	1.22 (1.05 -1.42)	1.40 (1.19 -1.64)	<0.001
		Cases / Participants	359 / 41,677	386 / 42,254	386 / 39,972	
	Model 7	HR (95%CI)	1	1.22 (1.05 -1.42)	1.40 (1.19 -1.64)	<0.001
		Cases / Participants	359 / 41,677	386 / 42,254	386 / 39,972	
	Model 8	HR (95%CI)	1	1.23 (1.06 -1.43)	1.40 (1.19 -1.65)	<0.001
		Cases / Participants	359 / 41,677	386 / 42,254	386 / 39,972	
	Model 9	HR (95%CI)	1	1.22 (1.05 -1.43)	1.41 (1.20 -1.66)	0.01
		Cases / Participants	265 / 31,904	278 / 31,775	293 / 30,915	
	Model 10	HR (95%CI)	1	1.15 (0.97 -1.38)	1.34 (1.12 -1.62)	<0.001
		Cases / Participants	486 / 50,459	551 / 50,458	507 / 47,537	
	Model 11	HR (95%CI)	1	1.33 (1.17 -1.52)	1.46 (1.28 -1.68)	0.02
		Cases / Participants	265 / 31,904	278 / 31,775	293 / 30,915	
	Model 12	HR (95%CI)	1	1.15 (0.94 -1.39)	1.28 (1.04 -1.58)	0.03
		Cases / Participants	359 / 41,677	386 / 42,254	386 / 39,972	
		HR (95%CI)	1	1.12 (0.97 - 1.30)	1.27 (1.09 - 1.48)	
Total Ascorbates	Model 1	Cases / Participants	360 / 44,238	431 / 43,764	340 / 39,709	0.01
		HR (95%CI)	1	1.24 (1.07 -1.44)	1.16 (0.98 -1.36)	
	Model 2	Cases / Participants	360 / 44,238	431 / 43,764	340 / 39,709	0.01
		HR (95%CI)	1	1.24 (1.06 - 1.44)	1.15 (0.98 - 1.35)	
	Model 3	Cases / Participants	360 / 44,238	431 / 43,764	340 / 39,709	0.03
		HR (95%CI)	1	1.21 (1.04 -1.40)	1.10 (0.94 -1.29)	
	Model 4	Cases / Participants	360 / 44,238	431 / 43,764	340 / 39,709	0.01
		HR (95%CI)	1	1.23 (1.06 -1.43)	1.14 (0.97 -1.35)	
	Model 5	Cases / Participants	360 / 44,238	431 / 43,764	340 / 39,709	0.01
		HR (95%CI)	1	1.25 (1.07 -1.45)	1.17 (0.99 -1.37)	
	Model 6	Cases / Participants	360 / 44,238	431 / 43,764	340 / 39,709	0.01
		HR (95%CI)	1	1.25 (1.07 -1.45)	1.17 (0.99 -1.37)	
	Model 7	Cases / Participants	360 / 44,238	431 / 43,764	340 / 39,709	0.01
		HR (95%CI)	1	1.25 (1.07 -1.45)	1.18 (1.00 -1.38)	
	Model 8	Cases / Participants	360 / 44,238	431 / 43,764	340 / 39,709	0.01
		HR (95%CI)	1	1.25 (1.07 -1.45)	1.17 (1.00 -1.38)	
	Model 9	Cases / Participants	275 / 33,017	312 / 32,072	249 / 30,822	0.17
		HR (95%CI)	1	1.17 (0.99 -1.39)	1.10 (0.91 -1.32)	
	Model 10	Cases / Participants	504 / 53,374	582 / 52,626	458 / 47,550	0.01
		HR (95%CI)	1	1.20 (1.05 -1.36)	1.13 (0.98 -1.30)	
	Model 11	Cases / Participants	275 / 33,017	312 / 32,072	249 / 30,822	0.40
		HR (95%CI)	1	1.12 (0.94 -1.34)	1.07 (0.88 -1.29)	

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
Ascorbic Acid (E300)	Model 12	Cases / Participants	360 / 44,238	431 / 43,764	340 / 39,709	0.14
		HR (95%CI)	1	1.14 (0.99 - 1.32)	1.09 (0.93 - 1.27)	
	Model 1	Cases / Participants	380 / 45,340	412 / 44,134	339 / 39,648	0.11
		HR (95%CI)	1	1.15 (0.99 -1.33)	1.14 (0.97 -1.33)	
	Model 2	Cases / Participants	380 / 45,340	412 / 44,134	339 / 39,648	0.10
		HR (95%CI)	1	1.16 (1.00 - 1.34)	1.13 (0.97 - 1.33)	
	Model 3	Cases / Participants	380 / 45,340	412 / 44,134	339 / 39,648	0.23
		HR (95%CI)	1	1.13 (0.98 -1.31)	1.08 (0.92 -1.26)	
	Model 4	Cases / Participants	380 / 45,340	412 / 44,134	339 / 39,648	0.12
		HR (95%CI)	1	1.15 (1.00 -1.34)	1.12 (0.96 -1.32)	
	Model 5	Cases / Participants	380 / 45,340	412 / 44,134	339 / 39,648	0.08
		HR (95%CI)	1	1.16 (1.00 -1.34)	1.15 (0.98 -1.34)	
	Model 6	Cases / Participants	380 / 45,340	412 / 44,134	339 / 39,648	0.08
		HR (95%CI)	1	1.16 (1.00 -1.34)	1.15 (0.98 -1.34)	
	Model 7	Cases / Participants	380 / 45,340	412 / 44,134	339 / 39,648	0.07
		HR (95%CI)	1	1.16 (1.00 -1.35)	1.16 (0.99 -1.35)	
	Model 8	Cases / Participants	380 / 45,340	412 / 44,134	339 / 39,648	0.07
		HR (95%CI)	1	1.16 (1.00 -1.35)	1.15 (0.98 -1.35)	
	Model 9	Cases / Participants	289 / 33,691	299 / 32,009	248 / 30,760	0.46
		HR (95%CI)	1	1.11 (0.93 -1.31)	1.08 (0.90 -1.30)	
	Model 10	Cases / Participants	525 / 54,729	560 / 52,966	459 / 47,411	0.04
		HR (95%CI)	1	1.15 (1.02 -1.31)	1.14 (0.99 -1.30)	
	Model 11	Cases / Participants	289 / 33,691	299 / 32,009	248 / 30,760	0.80
		HR (95%CI)	1	1.05 (0.88 -1.26)	1.05 (0.86 -1.27)	
	Model 12	Cases / Participants	380 / 45,340	412 / 44,134	339 / 39,648	0.28
		HR (95%CI)	1	1.11 (0.96 - 1.27)	1.10 (0.95 - 1.28)	
Sodium Ascorbate (E301)	Model 1	Cases / Participants	301 / 54,156	406 / 38,329	424 / 37,540	<0.001
		HR (95%CI)	1	1.49 (1.26 -1.75)	1.40 (1.19 -1.66)	
	Model 2	Cases / Participants	301 / 54,156	406 / 38,329	424 / 37,540	<0.001
		HR (95%CI)	1	1.52 (1.29 - 1.79)	1.41 (1.19 - 1.66)	
	Model 3	Cases / Participants	301 / 54,156	406 / 38,329	424 / 37,540	<0.001
		HR (95%CI)	1	1.45 (1.24 -1.70)	1.38 (1.17 -1.62)	
	Model 4	Cases / Participants	301 / 54,156	406 / 38,329	424 / 37,540	<0.001
		HR (95%CI)	1	1.50 (1.28 -1.77)	1.40 (1.19 -1.65)	
	Model 5	Cases / Participants	301 / 54,156	406 / 38,329	424 / 37,540	<0.001
		HR (95%CI)	1	1.49 (1.26 -1.75)	1.40 (1.19 -1.66)	
	Model 6	Cases / Participants	301 / 54,156	406 / 38,329	424 / 37,540	<0.001
		HR (95%CI)	1	1.49 (1.26 -1.75)	1.40 (1.19 -1.65)	
	Model 7	Cases / Participants	301 / 54,156	406 / 38,329	424 / 37,540	<0.001
		HR (95%CI)	1	1.49 (1.26 -1.75)	1.41 (1.19 -1.66)	
	Model 8	Cases / Participants	301 / 54,156	406 / 38,329	424 / 37,540	<0.001
		HR (95%CI)	1	1.49 (1.26 -1.75)	1.40 (1.18 -1.65)	
	Model 9	Cases / Participants	181 / 34,356	315 / 31,074	340 / 31,630	<0.001
		HR (95%CI)	1	1.53 (1.25 -1.88)	1.45 (1.18 -1.77)	
	Model 10	Cases / Participants	451 / 66,512	535 / 45,028	558 / 44,063	<0.001

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
Total Tocopherols	Model 11	HR (95%CI)	1	1.39 (1.21 -1.59)	1.31 (1.14 -1.50)	<0.001
		Cases / Participants	181 / 34,356	315 / 31,074	340 / 31,630	
	Model 12	HR (95%CI)	1	1.47 (1.16 -1.86)	1.33 (1.06 -1.66)	<0.001
		Cases / Participants	301 / 54,156	406 / 38,329	424 / 37,540	
	HR (95%CI)		1	1.39 (1.19 - 1.62)	1.26 (1.08 - 1.47)	
	Model 1	Cases / Participants	726 / 83,413	234 / 18,737	171 / 18,204	<0.001
		HR (95%CI)	1	1.34 (1.15 -1.56)	1.25 (1.05 -1.48)	
	Model 2	Cases / Participants	726 / 83,413	234 / 18,737	171 / 18,204	<0.001
		HR (95%CI)	1	1.35 (1.16 - 1.57)	1.25 (1.05 - 1.49)	
	Model 3	Cases / Participants	726 / 83,413	234 / 18,737	171 / 18,204	0.001
		HR (95%CI)	1	1.31 (1.12 -1.52)	1.25 (1.05 -1.48)	
	Model 4	Cases / Participants	726 / 83,413	234 / 18,737	171 / 18,204	0.001
		HR (95%CI)	1	1.34 (1.15 -1.56)	1.24 (1.04 -1.48)	
	Model 5	Cases / Participants	726 / 83,413	234 / 18,737	171 / 18,204	<0.001
		HR (95%CI)	1	1.33 (1.15 -1.55)	1.27 (1.07 -1.50)	
	Model 6	Cases / Participants	726 / 83,413	234 / 18,737	171 / 18,204	<0.001
		HR (95%CI)	1	1.33 (1.14 -1.55)	1.26 (1.06 -1.50)	
	Model 7	Cases / Participants	726 / 83,413	234 / 18,737	171 / 18,204	<0.001
		HR (95%CI)	1	1.33 (1.15 -1.55)	1.24 (1.05 -1.48)	
	Model 8	Cases / Participants	726 / 83,413	234 / 18,737	171 / 18,204	<0.001
		HR (95%CI)	1	1.34 (1.15 -1.56)	1.26 (1.07 -1.50)	
	Model 9	Cases / Participants	504 / 62,099	184 / 15,851	148 / 15,946	<0.001
		HR (95%CI)	1	1.33 (1.11 -1.58)	1.32 (1.09 -1.60)	
	Model 10	Cases / Participants	1027 / 101,549	299 / 21,682	218 / 21,000	<0.001
		HR (95%CI)	1	1.29 (1.13 -1.47)	1.23 (1.05 -1.43)	
	Model 11	Cases / Participants	504 / 62,099	184 / 15,851	148 / 15,946	0.002
		HR (95%CI)	1	1.33 (1.10 -1.60)	1.28 (1.05 -1.56)	
	Model 12	Cases / Participants	726 / 83,413	234 / 18,737	171 / 18,204	0.002
		HR (95%CI)	1	1.09 (0.94 - 1.26)	1.19 (1.02 - 1.38)	
Tocopherol- Rich Extract (E306)	Model 1	Cases / Participants	871 / 94,233	155 / 12,856	105 / 12,186	0.05
		HR (95%CI)	1	1.28 (1.07 -1.53)	1.11 (0.90 -1.36)	
	Model 2	Cases / Participants	871 / 94,233	155 / 12,856	105 / 12,186	0.04
		HR (95%CI)	1	1.29 (1.08 - 1.54)	1.12 (0.91 - 1.37)	
	Model 3	Cases / Participants	871 / 94,233	155 / 12,856	105 / 12,186	0.04
		HR (95%CI)	1	1.26 (1.05 -1.51)	1.12 (0.91 -1.38)	
	Model 4	Cases / Participants	871 / 94,233	155 / 12,856	105 / 12,186	0.05
		HR (95%CI)	1	1.28 (1.07 -1.53)	1.10 (0.90 -1.36)	
	Model 5	Cases / Participants	871 / 94,233	155 / 12,856	105 / 12,186	0.04
		HR (95%CI)	1	1.28 (1.07 -1.53)	1.12 (0.91 -1.38)	
	Model 6	Cases / Participants	871 / 94,233	155 / 12,856	105 / 12,186	0.05
		HR (95%CI)	1	1.27 (1.06 -1.52)	1.12 (0.91 -1.37)	
	Model 7	Cases / Participants	871 / 94,233	155 / 12,856	105 / 12,186	0.05
		HR (95%CI)	1	1.28 (1.07 -1.53)	1.10 (0.90 -1.36)	
	Model 8	Cases / Participants	871 / 94,233	155 / 12,856	105 / 12,186	0.04
		HR (95%CI)	1	1.28 (1.07 -1.53)	1.10 (0.90 -1.36)	

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
	Model 9	HR (95%CI)	1	1.28 (1.07 -1.53)	1.12 (0.91 -1.37)	0.003
		Cases / Participants	603 / 71,420	136 / 11,123	97 / 11,009	
	Model 10	HR (95%CI)	1	1.39 (1.14 -1.69)	1.25 (1.00 -1.55)	0.02
		Cases / Participants	1212 / 114,167	201 / 14,729	131 / 13,961	
	Model 11	HR (95%CI)	1	1.29 (1.10 -1.50)	1.10 (0.92 -1.33)	0.003
		Cases / Participants	603 / 71,420	136 / 11,123	97 / 11,009	
	Model 12	HR (95%CI)	1	1.43 (1.16 -1.76)	1.26 (1.00 -1.59)	0.09
		Cases / Participants	871 / 94,233	155 / 12,856	105 / 12,186	
	HR (95%CI)		1	1.09 (0.94 - 1.26)	1.19 (1.02 - 1.38)	
Alpha-Tocopherol (E307)	Model 1	Cases / Participants	898 / 94,825	132 / 9775	101 / 9595	0.001
		HR (95%CI)	1	1.34 (1.11 -1.62)	1.28 (1.03 -1.58)	
	Model 2	Cases / Participants	898 / 94,825	132 / 9775	101 / 9595	0.001
		HR (95%CI)	1	1.35 (1.12 - 1.63)	1.28 (1.03 - 1.58)	
	Model 3	Cases / Participants	898 / 94,825	132 / 9775	101 / 9595	0.004
		HR (95%CI)	1	1.30 (1.07 -1.57)	1.25 (1.01 -1.55)	
	Model 4	Cases / Participants	898 / 94,825	132 / 9775	101 / 9595	0.002
		HR (95%CI)	1	1.34 (1.11 -1.61)	1.27 (1.03 -1.57)	
	Model 5	Cases / Participants	898 / 94,825	132 / 9775	101 / 9595	0.001
		HR (95%CI)	1	1.34 (1.11 -1.62)	1.30 (1.05 -1.60)	
	Model 6	Cases / Participants	898 / 94,825	132 / 9775	101 / 9595	0.001
		HR (95%CI)	1	1.34 (1.11 -1.61)	1.29 (1.04 -1.59)	
	Model 7	Cases / Participants	898 / 94,825	132 / 9775	101 / 9595	0.001
		HR (95%CI)	1	1.35 (1.12 -1.62)	1.28 (1.04 -1.58)	
	Model 8	Cases / Participants	898 / 94,825	132 / 9775	101 / 9595	0.001
		HR (95%CI)	1	1.35 (1.12 -1.62)	1.30 (1.05 -1.60)	
	Model 9	Cases / Participants	657 / 74,234	99 / 8,039	80 / 8,251	0.03
		HR (95%CI)	1	1.26 (1.02 -1.57)	1.21 (0.95 -1.53)	
	Model 10	Cases / Participants	1246 / 114,792	172 / 11,242	126 / 11,145	0.002
		HR (95%CI)	1	1.33 (1.13 -1.56)	1.22 (1.00 -1.47)	
	Model 11	Cases / Participants	657 / 74,234	99 / 8,039	80 / 8,251	0.10
		HR (95%CI)	1	1.25 (0.99 -1.58)	1.14 (0.89 -1.46)	
	Model 12	Cases / Participants	898 / 94,825	132 / 9775	101 / 9595	0.01
		HR (95%CI)	1	1.09 (0.94 - 1.26)	1.19 (1.02 - 1.38)	
Total Erythorbates	Model 1	Cases / Participants	266 / 51,398	422 / 38,742	443 / 37,176	<0.001
		HR (95%CI)	1	1.55 (1.31 -1.82)	1.41 (1.19 -1.68)	
	Model 2	Cases / Participants	266 / 51,398	422 / 38,742	443 / 37,176	<0.001
		HR (95%CI)	1	1.54 (1.31 - 1.82)	1.42 (1.20 - 1.69)	
	Model 3	Cases / Participants	266 / 51,398	422 / 38,742	443 / 37,176	<0.001
		HR (95%CI)	1	1.51 (1.29 -1.78)	1.42 (1.20 -1.67)	
	Model 4	Cases / Participants	266 / 51,398	422 / 38,742	443 / 37,176	<0.001
		HR (95%CI)	1	1.53 (1.30 -1.80)	1.40 (1.18 -1.66)	
	Model 5	Cases / Participants	266 / 51,398	422 / 38,742	443 / 37,176	<0.001
		HR (95%CI)	1	1.53 (1.30 -1.81)	1.42 (1.20 -1.68)	
	Model 6	Cases / Participants	266 / 51,398	422 / 38,742	443 / 37,176	<0.001
		HR (95%CI)	1	1.53 (1.30 -1.81)	1.42 (1.20 -1.68)	

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
	Model 7	HR (95%CI)	1	1.53 (1.30 -1.80)	1.42 (1.20 -1.68)	<0.001
		Cases / Participants	266 / 51,398	422 / 38,742	443 / 37,176	
	Model 8	HR (95%CI)	1	1.54 (1.30 -1.81)	1.43 (1.21 -1.70)	<0.001
		Cases / Participants	266 / 51,398	422 / 38,742	443 / 37,176	
	Model 9	HR (95%CI)	1	1.53 (1.30 -1.80)	1.42 (1.20 -1.69)	<0.001
		Cases / Participants	160 / 32,704	320 / 31,727	356 / 31,495	
	Model 10	HR (95%CI)	1	1.56 (1.27 -1.91)	1.48 (1.20 -1.83)	<0.001
		Cases / Participants	409 / 63,417	558 / 45,826	577 / 43,455	
	Model 11	HR (95%CI)	1	1.42 (1.24 -1.63)	1.36 (1.18 -1.56)	<0.001
		Cases / Participants	160 / 32,704	320 / 31,727	356 / 31,495	
	Model 12	HR (95%CI)	1	1.51 (1.18 -1.92)	1.37 (1.08 -1.75)	<0.001
		Cases / Participants	266 / 51,398	422 / 38,742	443 / 37,176	
			1	1.44 (1.23 - 1.69)	1.33 (1.13 - 1.55)	
Sodium Erythorbate (E316)	Model 1	Cases / Participants	266 / 51,398	421 / 38,747	444 / 37,175	<0.001
		HR (95%CI)	1	1.54 (1.31 -1.81)	1.42 (1.20 -1.68)	
	Model 2	Cases / Participants	266 / 51,398	421 / 38,747	444 / 37,175	<0.001
		HR (95%CI)	1	1.54 (1.31 - 1.81)	1.43 (1.20 - 1.69)	
	Model 3	Cases / Participants	266 / 51,398	421 / 38,747	444 / 37,175	<0.001
		HR (95%CI)	1	1.51 (1.29 -1.78)	1.42 (1.20 -1.68)	
	Model 4	Cases / Participants	266 / 51,398	421 / 38,747	444 / 37,175	<0.001
		HR (95%CI)	1	1.52 (1.30 -1.79)	1.40 (1.18 -1.66)	
	Model 5	Cases / Participants	266 / 51,398	421 / 38,747	444 / 37,175	<0.001
		HR (95%CI)	1	1.53 (1.30 -1.80)	1.42 (1.20 -1.69)	
	Model 6	Cases / Participants	266 / 51,398	421 / 38,747	444 / 37,175	<0.001
		HR (95%CI)	1	1.53 (1.30 -1.80)	1.42 (1.20 -1.69)	
	Model 7	Cases / Participants	266 / 51,398	421 / 38,747	444 / 37,175	<0.001
		HR (95%CI)	1	1.53 (1.30 -1.80)	1.44 (1.21 -1.70)	
	Model 8	Cases / Participants	266 / 51,398	421 / 38,747	444 / 37,175	<0.001
		HR (95%CI)	1	1.53 (1.30 -1.80)	1.43 (1.21 -1.69)	
	Model 9	Cases / Participants	160 / 32,704	320 / 31,731	356 / 31,494	<0.001
		HR (95%CI)	1	1.56 (1.27 -1.91)	1.48 (1.20 -1.83)	
	Model 10	Cases / Participants	409 / 63,417	558 / 45,831	577 / 43,451	<0.001
		HR (95%CI)	1	1.42 (1.24 -1.63)	1.36 (1.18 -1.56)	
	Model 11	Cases / Participants	160 / 32,704	320 / 31,731	356 / 31,494	<0.001
		HR (95%CI)	1	1.51 (1.18 -1.92)	1.37 (1.08 -1.75)	
	Model 12	Cases / Participants	266 / 51,398	421 / 38,747	444 / 37,175	<0.001
		HR (95%CI)	1	1.44 (1.23 - 1.68)	1.33 (1.14 - 1.55)	
Lecithins (E322)	Model 1	Cases / Participants	462 / 41,264	390 / 41,419	279 / 39,677	0.11
		HR (95%CI)	1	1.10 (0.95 -1.27)	1.15 (0.96 -1.38)	
	Model 2	Cases / Participants	462 / 41,264	390 / 41,419	279 / 39,677	0.15
		HR (95%CI)	1	1.10 (0.95 - 1.27)	1.13 (0.94 - 1.36)	
	Model 3	Cases / Participants	462 / 41,264	390 / 41,419	279 / 39,677	0.12
		HR (95%CI)	1	1.08 (0.93 -1.24)	1.15 (0.96 -1.37)	
	Model 4	Cases / Participants	462 / 41,264	390 / 41,419	279 / 39,677	0.22
		HR (95%CI)	1	1.09 (0.94 -1.26)	1.11 (0.92 -1.34)	

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
	Model 5	Cases / Participants	462 / 41,264	390 / 41,419	279 / 39,677	0.10
		HR (95%CI)	1	1.10 (0.95 -1.27)	1.16 (0.96 -1.39)	
	Model 6	Cases / Participants	462 / 41,264	390 / 41,419	279 / 39,677	0.09
		HR (95%CI)	1	1.10 (0.95 -1.27)	1.16 (0.97 -1.40)	
	Model 7	Cases / Participants	462 / 41,264	390 / 41,419	279 / 39,677	0.36
		HR (95%CI)	1	1.07 (0.93 -1.24)	1.08 (0.90 -1.30)	
	Model 8	Cases / Participants	462 / 41,264	390 / 41,419	279 / 39,677	0.11
		HR (95%CI)	1	1.10 (0.95 -1.27)	1.15 (0.96 -1.38)	
	Model 9	Cases / Participants	333 / 31,451	292 / 31,381	211 / 30,943	0.20
		HR (95%CI)	1	1.12 (0.95 -1.33)	1.13 (0.92 -1.39)	
	Model 10	Cases / Participants	661 / 50,283	533 / 49,575	350 / 47,034	0.27
		HR (95%CI)	1	1.09 (0.96 -1.23)	1.08 (0.92 -1.26)	
	Model 11	Cases / Participants	333 / 31,451	292 / 31,381	211 / 30,943	0.47
		HR (95%CI)	1	1.13 (0.94 -1.35)	1.08 (0.86 -1.36)	
	Model 12	Cases / Participants	462 / 41,264	390 / 41,419	279 / 39,677	0.27
		HR (95%CI)	1	1.04 (0.90 - 1.20)	1.11 (0.94 - 1.31)	
Citric Acid (E330)	Model 1	Cases / Participants	340 / 43,395	388 / 42,790	403 / 39,796	0.01
		HR (95%CI)	1	1.15 (0.98 -1.34)	1.27 (1.09 -1.49)	
	Model 2	Cases / Participants	340 / 43,395	388 / 42,790	403 / 39,796	0.02
		HR (95%CI)	1	1.15 (0.99 - 1.35)	1.24 (1.06 - 1.45)	
	Model 3	Cases / Participants	340 / 43,395	388 / 42,790	403 / 39,796	0.01
		HR (95%CI)	1	1.14 (0.98 -1.34)	1.26 (1.08 -1.47)	
	Model 4	Cases / Participants	340 / 43,395	388 / 42,790	403 / 39,796	0.05
		HR (95%CI)	1	1.12 (0.96 -1.32)	1.21 (1.03 -1.43)	
	Model 5	Cases / Participants	340 / 43,395	388 / 42,790	403 / 39,796	0.004
		HR (95%CI)	1	1.15 (0.98 -1.34)	1.29 (1.11 -1.51)	
	Model 6	Cases / Participants	340 / 43,395	388 / 42,790	403 / 39,796	0.004
		HR (95%CI)	1	1.15 (0.98 -1.35)	1.29 (1.11 -1.51)	
	Model 7	Cases / Participants	340 / 43,395	388 / 42,790	403 / 39,796	0.003
		HR (95%CI)	1	1.15 (0.98 -1.36)	1.30 (1.11 -1.52)	
	Model 8	Cases / Participants	340 / 43,395	388 / 42,790	403 / 39,796	0.003
		HR (95%CI)	1	1.15 (0.98 -1.35)	1.30 (1.11 -1.52)	
	Model 9	Cases / Participants	257 / 32,860	270 / 31,978	309 / 30,726	0.02
		HR (95%CI)	1	1.05 (0.87 -1.26)	1.26 (1.05 -1.50)	
	Model 10	Cases / Participants	457 / 52,537	550 / 51,131	537 / 47,418	<0.001
		HR (95%CI)	1	1.25 (1.09 -1.43)	1.36 (1.19 -1.56)	
	Model 11	Cases / Participants	257 / 32,860	270 / 31,978	309 / 30,726	0.07
		HR (95%CI)	1	1.02 (0.84 -1.23)	1.20 (0.99 -1.44)	
	Model 12	Cases / Participants	340 / 43,395	388 / 42,790	403 / 39,796	0.12
		HR (95%CI)	1	1.09 (0.94 - 1.26)	1.19 (1.02 - 1.38)	
Phosphoric Acid (E338)	Model 1	Cases / Participants	869 / 86,226	138 / 14,683	124 / 15,537	<0.001
		HR (95%CI)	1	1.37 (1.14 -1.65)	1.37 (1.09 -1.72)	
	Model 2	Cases / Participants	869 / 86,226	138 / 14,683	124 / 15,537	0.01
		HR (95%CI)	1	1.35 (1.12 - 1.62)	1.22 (0.96 - 1.55)	
	Model 3	Cases / Participants	869 / 86,226	138 / 14,683	124 / 15,537	0.001
		HR (95%CI)	1	1.35 (1.12 - 1.62)	1.22 (0.96 - 1.55)	

Food Additive ^{b, c}			Lower consumers	Medium consumers	Higher consumers	p-value ^d
	Model 4	HR (95%CI)	1	1.34 (1.11 -1.61)	1.35 (1.08 -1.69)	
		Cases / Participants	869 / 86,226	138 / 14,683	124 / 15,537	0.01
	Model 5	HR (95%CI)	1	1.36 (1.13 -1.63)	1.24 (0.96 -1.59)	
		Cases / Participants	869 / 86,226	138 / 14,683	124 / 15,537	<0.001
	Model 6	HR (95%CI)	1	1.38 (1.15 -1.66)	1.39 (1.11 -1.76)	
		Cases / Participants	869 / 86,226	138 / 14,683	124 / 15,537	<0.001
	Model 7	HR (95%CI)	1	1.38 (1.15 -1.66)	1.39 (1.10 -1.76)	
		Cases / Participants	869 / 86,226	138 / 14,683	124 / 15,537	0.001
	Model 8	HR (95%CI)	1	1.36 (1.13 -1.63)	1.35 (1.07 -1.72)	
		Cases / Participants	869 / 86,226	138 / 14,683	124 / 15,537	<0.001
	Model 9	HR (95%CI)	1	1.38 (1.15 -1.66)	1.40 (1.12 -1.76)	
		Cases / Participants	625 / 67,561	112 / 11,513	99 / 12,474	0.003
	Model 10	HR (95%CI)	1	1.39 (1.13 -1.71)	1.32 (1.03 -1.71)	
		Cases / Participants	1197 / 104,641	174 / 17,173	173 / 17,961	<0.001
	Model 11	HR (95%CI)	1	1.34 (1.14 -1.58)	1.54 (1.27 -1.85)	
		Cases / Participants	625 / 67,561	112 / 11,513	99 / 12,474	0.02
	Model 12	HR (95%CI)	1	1.34 (1.07 -1.67)	1.23 (0.94 -1.61)	
		Cases / Participants	869 / 86,226	138 / 14,683	124 / 15,537	0.001
		HR (95%CI)	1	1.29 (1.07 - 1.55)	1.36 (1.12 - 1.66)	
Extracts Of Rosemary (E392)	Model 1	Cases / Participants	655 / 84,664	239 / 22,431	237 / 20,463	0.01
		HR (95%CI)	1	1.26 (1.08 -1.47)	1.20 (1.02 -1.40)	
	Model 2	Cases / Participants	655 / 84,664	239 / 22,431	237 / 20,463	0.01
		HR (95%CI)	1	1.27 (1.09 - 1.49)	1.19 (1.01 - 1.39)	
	Model 3	Cases / Participants	655 / 84,664	239 / 22,431	237 / 20,463	0.02
		HR (95%CI)	1	1.27 (1.09 -1.48)	1.15 (0.98 -1.36)	
	Model 4	Cases / Participants	655 / 84,664	239 / 22,431	237 / 20,463	0.01
		HR (95%CI)	1	1.26 (1.08 -1.48)	1.20 (1.02 -1.40)	
	Model 5	Cases / Participants	655 / 84,664	239 / 22,431	237 / 20,463	0.01
		HR (95%CI)	1	1.26 (1.08 -1.47)	1.20 (1.02 -1.40)	
	Model 6	Cases / Participants	655 / 84,664	239 / 22,431	237 / 20,463	0.01
		HR (95%CI)	1	1.26 (1.08 -1.47)	1.20 (1.02 -1.40)	
	Model 7	Cases / Participants	655 / 84,664	239 / 22,431	237 / 20,463	0.01
		HR (95%CI)	1	1.25 (1.07 -1.46)	1.19 (1.02 -1.40)	
	Model 8	Cases / Participants	655 / 84,664	239 / 22,431	237 / 20,463	0.01
		HR (95%CI)	1	1.26 (1.08 -1.47)	1.20 (1.02 -1.40)	
	Model 9	Cases / Participants	437 / 59,781	199 / 19,618	200 / 18,436	0.02
		HR (95%CI)	1	1.26 (1.05 -1.50)	1.19 (1.00 -1.42)	
	Model 10	Cases / Participants	933 / 102,788	315 / 26,050	296 / 23,769	0.004
		HR (95%CI)	1	1.27 (1.11 -1.45)	1.16 (1.02 -1.34)	
	Model 11	Cases / Participants	437 / 59,781	199 / 19,618	200 / 18,436	0.16
		HR (95%CI)	1	1.16 (0.96 -1.41)	1.11 (0.93 -1.34)	
	Model 12	Cases / Participants	655 / 84,664	239 / 22,431	237 / 20,463	0.01
		HR (95%CI)	1	1.26 (1.08 - 1.47)	1.17 (1.01 - 1.37)	

^a Multivariable Cox proportional hazard models (two-sided) adjusted for age (time-scale), sex, baseline height (continuous, m), BMI (continuous, kg/m²), physical activity (categorical IPAQ variable: high, moderate, low), smoking status (never smoked, former smoker, smoker), number of smoked cigarettes in pack-years (continuous), educational level (less than high school degree, ≤3 y after high school degree, >3 y after high school degree), family history of diabetes (yes/no), number of dietary records (continuous), time-dependent daily intakes of energy without alcohol (continuous, kcal/d), alcohol (less than 1 unit (8g ethanol) per day, between 1 and 2 units per day, more than 2 units per day), saturated fats (continuous, g/d), sodium (continuous, mg/d), dietary fibre (continuous, g/d), sugars (continuous, g/d), fruits and vegetables (continuous, g/d), dairy products (continuous, g/d), red and processed meats (continuous, g/d), and heme iron (continuous, mg/d, for nitrites and nitrates models only). In addition, when applicable, each model was adjusted for the intake of the corresponding substance coming from natural sources (continuous, mg/d): sulfites for total sulfites, sulfur dioxide (E220), and potassium metabisulfite (E224); nitrites and the sum of natural nitrates and added nitrates for total nitrites, and sodium nitrite (E250); nitrates and the sum of natural and added nitrites for total nitrates, and potassium nitrate (E252); acetic acid for total acetates, acetic acid (E260), and sodium acetates (E262); vitamin C for total ascorbates, ascorbic acid (E300), and sodium ascorbate (E301); vitamin E for total tocopherols, tocopherol-rich extract (E306), and alpha-tocopherol (E307); and citric acid for citric acid (E330).

In the main model, 1.06% of participants were censored due to death, 0.10% due to the development of incident type 1 diabetes, 6.90% due cohort drop out, and 90.93% for no event (no type 2 diabetes, type 1 diabetes, death or drop out) before the end of this specific study on 31 December 2023.

Model 1: Main model + mutual adjustment for the rest of preservative food additives (continuous, mg/d). Model 2: Main model + adjustment for the percentage of the total intake weight coming from ultra-processed food at baseline (continuous, %). Model 3: Main model + adjustment for diagnosis and/or treatment for at least one prevalent metabolic disorder (i.e. cardiovascular disease, triglyceridemia or hypertension). Model 4: Main model + adjustment for time-dependent intakes of total emulsifier and total artificial sweetener food additives (continuous, mg/d). Model 5: Main model + adjustment for baseline intake of vitamin C (continuous, mg) and vitamin E (continuous, mg) from dietary supplements. Model 6: Main model + adjustment for *trans* fatty acid intake (continuous, mg/d). Model 7: Main model + adjustment for PCA-derived dietary patterns rather than individual food groups (continuous, see Methods for determination of dietary patterns). Model 8: Main model + adjustment for time-dependent intakes of polyunsaturated fatty acids (continuous, g/d) and heme iron (continuous, mg/d). Model 9: Main model with follow-up starting at the end of the first 2-year period. Model 10: Main model without exclusion of under-reporters. Model 11: Main model using marginal structural models, with stabilised and truncated at 99th percentile inverse probability of treatment weighting. Model 12: relaxing log-linearity assumption on covariates adding splines.

^b Groups of preservative food additives were calculated as the sum of individual preservative food additives and defined as follows: total preservatives (E200, E202, E203, E210, E211, E212, E220, E221, E222, E223, E224, E225, E228, sulfites from alcoholic drinks, E234, E235, E239, E242, E249, E250, E251, E252, E260, E261, E262, E263, E280, E281, E282, E285, E290, E300, E301, E302, E304, E306, E307, E307b, E307c, E310, E315, E316, E319, E320, E321, E322, E325, E326, E330, E332, E333, E334, E338, E385, E386, E392, E472c, E942, E1105), total preservatives (non-antioxidant) (E200, E202, E203, E210, E211, E212, E220, E221, E222, E223, E224, E225, E228, sulfites from alcoholic drinks, E234, E235, E239, E242, E249, E250, E251, E252, E260, E261, E262, E263, E280, E281, E282, E285, E290, E385, E386, E1105), total sorbates (E200, E202, E203), total sulfites (E220, E221, E222, E223, E224, E225, E228, sulfites from alcoholic drinks), total nitrites (E249, E250), total nitrates (E251, E252), total acetates (E260, E261, E262, E263), total propionates (E280, E281, E282), total preservatives (antioxidant) (E300, E301, E302, E304, E306, E307, E307b, E307c, E310, E315, E316, E319, E320, E321, E322, E325, E326, E330, E332, E333, E334, E338, E385, E386, E392, E472c, E942), total ascorbates (E300, E301, E302, E304), total tocopherols (E306, E307, E307b, E307c), total erythorbates (E315, E316), and total EDTA (E385, E386).

^c Intakes of preservative food additives were handled as categorical cumulative time-dependent variables, using a time-varying exposure model per two years of follow-up, each containing averaged preservative food additive intakes from the available dietary records within each two-year period. The maximum number of two-year periods was seven, to cover the maximum follow-up period of 14 years.

The 3 additive categories were defined as follows: sex-specific tertiles for total preservatives, total preservatives (non-antioxidant), total sorbates, total sulfites, total nitrites, sodium nitrite (E250), total preservatives (antioxidant), total ascorbates, ascorbic acid (E300), lecithins (E322), and citric acid (E330); and otherwise: 1/ non-consumers, 2/ lower, and 3/ higher consumers, the latter two being separated by the sex-specific median. Cut-offs were re-calculated for each period and are available in Supplementary Table 1.

^d When the log-linearity assumption was not rejected (p for non-linearity ≥ 0.05 in the Restricted Cubic Splines models), the p for linear trend was retained (obtained by coding the exposure as an ordinal categorical variable 1, 2, 3) (p -value in *italic*). When the assumption of log-linearity was not met (p for non-linearity <0.05), it was not adapted to calculate a p for linear trend, thus, the likelihood ratio overall p -value was retained (obtained by coding the exposure as a non-ordinal categorical variable and calculating likelihood ratio test between models with and without the studied food additive exposure variable).

Supplementary Table 4 – Associations between intakes of acetic acid, citric acid, nitrates, nitrites, sulfites, vitamin C, and vitamin E from naturally occurring sources and type 2 diabetes incidence among study participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723) ^{a,b}

		Lower consumers	Medium consumers	Higher consumers	p-value ^c
Acetic Acid	Cases / Participants	306 / 42,366	369 / 42,238	456 / 39,412	<0.001
	HR (95%CI)	1	1.08 (0.92 -1.27)	1.20 (1.02 -1.42)	
Citric Acid	Cases / Participants	379 / 42,382	359 / 41,956	393 / 38,731	0.46
	HR (95%CI)	1	0.99 (0.84 -1.16)	1.07 (0.89 -1.29)	
Nitrates, Food- originated	Cases / Participants	314 / 39,024	367 / 38,732	450 / 36,241	0.26
	HR (95%CI)	1	0.94 (0.79 -1.12)	0.90 (0.74 -1.08)	
Nitrates, Water- Originated	Cases / Participants	367 / 39,040	458 / 39,164	306 / 36,241	0.07
	HR (95%CI)	1	1.15 (1.00 -1.33)	0.86 (0.73 -1.01)	
Nitrites, Food- originated	Cases / Participants	284 / 38,815	384 / 39,477	463 / 33,716	0.44
	HR (95%CI)	1	1.00 (0.84 - 1.17)	0.93 (0.77 - 1.13)	
Nitrites, Water- Originated	Cases / Participants	801 / 85,199	229 / 15,231	101 / 8293	0.01
	HR (95%CI)	1	1.18 (1.01 -1.39)	1.22 (0.99 -1.51)	
Sulfites	Cases / Participants	362 / 44,419	371 / 42,074	398 / 37,735	<0.001
	HR (95%CI)	1	0.83 (0.71 -0.98)	0.59 (0.46 -0.76)	
Vitamin C	Cases / Participants	361 / 41,903	406 / 41,433	364 / 38,386	0.07
	HR (95%CI)	1	1.21 (1.02 -1.42)	1.21 (0.98 -1.50)	
Vitamin E	Cases / Participants	333 / 41,796	367 / 41,817	431 / 39,077	0.09
	HR (95%CI)	1	1.01 (0.85 -1.19)	1.18 (0.97 -1.42)	

^a Multivariable Cox proportional hazard models (two-sided) adjusted for age (time-scale), sex, baseline height (continuous, m), BMI (continuous, kg/m²), physical activity (categorical IPAQ variable: high, moderate, low), smoking status (never smoked, former smoker, smoker), number of smoked cigarettes in pack-years (continuous), educational level (less than high school degree, ≤3 y after high school degree, >3 y after high school degree), family history of diabetes (yes/no), number of dietary records (continuous), time-dependent daily intakes of energy without alcohol (continuous, kcal/d), alcohol (less than 1 unit (8g ethanol) per day, between 1 and 2 units per day, more than 2 units per day), saturated fats (continuous, g/d), sodium (continuous, mg/d), dietary fibre (continuous, g/d), sugars (continuous, g/d), fruits and vegetables (continuous, g/d), dairy products (continuous, g/d), red and processed meats (continuous, g/d), fruit juice (continuous, g for the vitamin C model), fat and sauce (continuous, g, for the vitamin E model), and heme iron (continuous, mg/d, for nitrites and nitrates models only).

^b Intakes were handled as categorical cumulative time-dependent variables, using a time-varying exposure model per two years of follow-up, each containing averaged intakes from the available dietary records within each two-year period. The maximum number of two-year periods was seven, to cover the maximum follow-up period of 14 years.

All exposure categories were defined as sex-specific tertiles except for water-originated-nitrites which were defined as 1/ non-consumers, 2/lower, and 3/ higher consumers. Cut-offs were re-calculated for each period.

^c When the log-linearity assumption was not rejected (p for non-linearity ≥ 0.05 in the Restricted Cubic Splines models), the p for linear trend was retained (obtained by coding the exposure as an ordinal categorical variable 1, 2, 3) (p-value in italic). When the assumption of log-linearity was not met (p for non-linearity <0.05), it was not adapted to calculate a p for linear trend, thus, the likelihood ratio overall p-value was retained (obtained by coding the exposure as a non-ordinal categorical variable and calculating likelihood ratio test between models with and without the studied food additive exposure variable).

Supplementary Table 5 – Comparison of exposures to preservative food additives between EFSA and NutriNet-Santé, 2009-2023 (n=108,723)

Food Additive	Acceptable Daily Intake (ADI)	Unit/kg body weight/d	EFSA estimate		NutriNet-Santé ^a	
			All (adult) population Europe Minimum-Maximum of mean values across considered dietary surveys	France Mean ^b	All population Mean (SD)	Consumers Only Mean (SD)
Sorbates (E200-E203)	11	mg sorbic acid equivalent	0.3-0.8	0.6	0.2 (0.5)	0.7 (0.8)
Sulfites (E220-E228)	0.7	mg sulfur dioxide equivalent	0.12-0.26	0.18	0.06 (0.08)	0.07 (0.09)
Nitrites (E249-E250)	0.07	mg nitrite ion equivalent	0.01-0.02	0.04	0.002 (0.003)	0.004 (0.004)
Nitrates (E251-E252)	3.7	mg nitrite ion equivalent	0.02-0.05	NA	0.002 (0.006)	0.009 (0.014)
Propionates (E280-E283)	NA	mg	1.3-7.5	7.5 ^c	0.1 (0.3)	1.3 (1.6)
Ascorbates (E300-E302)	NA	mg ascorbic acid equivalent	1.1-2.5	1.3	1.1 (1.6)	1.4 (1.7)
Alpha-Tocopherol (E307)	NA	mg	0.5-1.0	0.6	0.005 (0.024)	0.035 (0.057)
Erythorbates (E315-E316)	6	mg	0.01-0.03	0.01	0.13 (0.25)	0.29 (0.34)
Lecithins (E322)	NA	mg	3-9	5.7	0.9 (2.2)	1.0 (2.3)
Extracts of Rosemary (E392)	0.3	mg carnosol and carnosic acid	0.01-0.03	0.03	0.007 (0.024)	0.029 (0.043)

EFSA: European Food Safety Authority; NA: Not applicable/available; SD: Standard Deviation

^a Conversion factors have only been applied here to compare to the existing ADI and exposure estimate

^b EFSA estimates of exposure were reported from EFSA Opinions¹⁻²³. No SD was provided.

^c The EFSA Panel noted that this estimate should be considered as being higher than reality, as it was assumed that all processed foods contain the food additives propionic acid - propionates added at the maximum permitted levels or the maximum reported levels.

Supplementary Table 6 – Cut-offs for preservative food additive exposures per sex and period for study participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723)

Food Additive	% of Consumers at Baseline (period No.1)	Period No.1		Period No.2		Period No.3		Period No.4		Period No.5		Period No.6		Period No.7	
		Cut-off(s) for Women	Cut-off(s) for Men	Cut-off(s) for Women	Cut-off(s) for Men	Cut-off(s) for Women	Cut-off(s) for Men	Cut-off(s) for Women	Cut-off(s) for Men	Cut-off(s) for Women	Cut-off(s) for Men	Cut-off(s) for Women	Cut-off(s) for Men	Cut-off(s) for Women	Cut-off(s) for Men
Total Preservatives	99.7	289.86 - 552.32	289.51 - 577.76	304.99 - 544.61	307.85 - 567.03	309.66 - 540.26	313.65 - 561.25	315.31 - 538.49	317.66 - 555.23	318.30 - 534.16	322.39 - 550.75	321.39 - 528.98	327.47 - 545.89	326.11 - 504.72	334.08 - 531.72
Total Preservatives (Non-Antioxidant)	97.0	9.59 - 43.17	13.4 - 52.71	13.27 - 46.16	17.84 - 56.8	14.65 - 46.87	19.50 - 57.83	15.94 - 47.64	20.91 - 58.08	17.13 - 48.32	22.08 - 58.10	18.37 - 48.34	23.58 - 58.93	22.83 - 49.51	27.50 - 59.58
Total Sorbates	68.2	0.99 - 17.31	0.40 - 19.53	3.21 - 18.89	3.71 - 21.83	4.08 - 19.17	4.70 - 22.17	4.76 - 19.59	5.50 - 22.59	5.39 - 19.90	6.20 - 22.53	6.15 - 19.99	7.07 - 23.22	8.64 - 21.27	9.72 - 24.09
Potassium Sorbate (E202)	65.5	13.77	17.33	13.08	16.39	12.75	15.93	12.52	15.54	12.36	15.01	12.02	14.90	11.76	14.13
Total Sulfites	83.6	0.46 - 3.17	1.54 - 6.55	0.68 - 3.35	1.93 - 6.72	0.77 - 3.42	2.14 - 6.76	0.84 - 3.47	2.31 - 6.87	0.93 - 3.54	2.46 - 6.94	1.03 - 3.63	2.65 - 7.08	1.41 - 3.98	3.28 - 7.50
Sulfur Dioxide (E220)	13.4	0.38	0.43	0.24	0.25	0.20	0.21	0.17	0.18	0.15	0.16	0.12	0.14	0.08	0.09
Potassium Metabisulfite (E224)	44.4	0.22	0.27	0.18	0.22	0.17	0.21	0.16	0.20	0.15	0.19	0.14	0.18	0.11	0.16
Total Nitrites	73.7	0.04 - 0.20	0.05 - 0.25	0.06 - 0.21	0.08 - 0.26	0.07 - 0.21	0.09 - 0.26	0.07 - 0.21	0.10 - 0.26	0.08 - 0.21	0.10 - 0.26	0.09 - 0.21	0.11 - 0.27	0.10 - 0.20	0.12 - 0.26
Sodium Nitrite (E250)	73.7	0.04 - 0.20	0.05 - 0.25	0.06 - 0.21	0.08 - 0.25	0.07 - 0.21	0.09 - 0.26	0.07 - 0.21	0.10 - 0.26	0.08 - 0.21	0.10 - 0.26	0.08 - 0.21	0.11 - 0.27	0.10 - 0.20	0.12 - 0.26
Total Nitrates	32.6	0.36	0.46	0.27	0.35	0.23	0.31	0.21	0.29	0.19	0.26	0.17	0.24	0.12	0.19
Potassium Nitrate (E252)	32.6	0.36	0.46	0.26	0.35	0.23	0.31	0.21	0.28	0.19	0.26	0.17	0.24	0.12	0.19
Total Acetates	18.3	43.89	59.46	23.60	29.76	19.13	23.84	16.52	19.09	14.15	16.12	11.39	13.22	6.41	7.19
Acetic Acid (E260)	10.1	102.66	117.75	59.52	63.92	47.62	51.02	39.68	41.06	33.41	35.06	26.84	28.91	14.19	13.30
Sodium Acetates (E262)	10.2	14.16	17.47	8.23	9.18	6.74	7.51	5.59	6.05	4.61	5.02	3.70	3.92	2.22	2.24
Total Propionates	25.7	32.47	38.27	22.86	24.94	19.24	20.00	16.99	16.80	14.75	14.29	12.74	11.79	7.15	6.97
Calcium Propionate (E282)	25.2	32.68	38.69	22.86	25.03	19.14	20.08	16.86	16.67	14.75	14.23	12.64	11.66	7.15	6.78

Food Additive	% of Consumers at Baseline (period No.1)	Period No.1		Period No.2		Period No.3		Period No.4		Period No.5		Period No.6		Period No.7	
		Cut-off(s) for Women	Cut-off(s) for Men	Cut-off(s) for Women	Cut-off(s) for Men	Cut-off(s) for Women	Cut-off(s) for Men	Cut-off(s) for Women	Cut-off(s) for Men	Cut-off(s) for Women	Cut-off(s) for Men	Cut-off(s) for Women	Cut-off(s) for Men	Cut-off(s) for Women	Cut-off(s) for Men
Total Preservatives (Antioxidants)	99.2	250.72 - 491.98	243.81 - 502.66	265.36 - 484.89	260.86 - 492.61	269.76 - 481.02	266.90 - 488.26	274.91 - 479.58	270.75 - 485.27	277.71 - 476.79	274.55 - 481.02	281.31 - 472.02	278.61 - 477.27	285.82 - 452.20	291.43 - 466.56
Total Ascorbates	89.4	14.75 - 72.67	11.67 - 61.90	20.48 - 74.16	16.93 - 64.58	22.61 - 74.40	19.40 - 65.36	24.66 - 74.41	20.70 - 65.34	25.98 - 73.95	21.79 - 64.54	27.24 - 72.85	22.92 - 63.65	30.51 - 69.89	26.09 - 60.24
Ascorbic Acid (E300)	83.5	5.73 - 64.91	3.63 - 51.34	11.25 - 66.87	7.22 - 55.04	14.08 - 67.07	9.79 - 56.08	16.15 - 66.93	11.23 - 56.07	17.88 - 66.60	12.50 - 55.72	19.57 - 65.57	14.13 - 55.06	24.30 - 62.72	18.21 - 53.33
Sodium Ascorbate (E301)	50.2	9.58	11.02	7.86	8.66	7.29	8.04	6.94	7.56	6.58	7.14	6.13	6.81	4.95	5.63
Total Tocopherols	23.3	1.61	1.74	1.11	1.18	0.95	1.01	0.84	0.89	0.74	0.79	0.64	0.68	0.43	0.46
Tocopherol-Rich Extract (E306)	13.3	1.71	1.85	1.08	1.12	0.89	0.91	0.77	0.77	0.65	0.65	0.55	0.55	0.31	0.38
Alpha-Tocopherol (E307)	12.8	0.96	1.11	0.63	0.74	0.51	0.58	0.47	0.51	0.41	0.46	0.35	0.39	0.23	0.26
Total Erythorbates	52.7	8.93	10.13	8.14	8.93	7.78	8.57	7.46	8.18	7.14	7.76	6.70	7.21	5.95	6.10
Sodium Erythorbate (E316)	52.7	8.93	10.12	8.13	8.93	7.77	8.57	7.46	8.18	7.14	7.76	6.69	7.21	5.94	6.10
Lecithins (E322)	87.1	18.63 - 58.4	16.00 - 57.88	21.26 - 57.86	19.20 - 57.32	21.90 - 57.40	20.50 - 56.74	22.52 - 57.17	21.12 - 56.24	22.89 - 56.46	21.47 - 55.06	23.50 - 55.71	22.14 - 54.58	23.66 - 50.51	23.12 - 51.20
Citric Acid (E330)	91.8	117.74 - 309.9	115.20 - 318.58	134.96 - 306.73	135.77 - 313.70	141.12 - 304.47	142.86 - 312.02	146.74 - 304.37	147.63 - 310.33	150.68 - 303.71	152.31 - 310.27	155.41 - 302.27	158.07 - 309.88	169.78 - 297.22	175.10 - 312.95
Phosphoric Acid (E338)	20.7	39.51	43.47	27.44	29.25	24.60	24.70	21.73	21.36	19.59	19.03	16.46	14.80	8.71	7.69
Extracts Of Rosemary (E392)	22.1	0.98	1.17	0.74	0.88	0.65	0.75	0.57	0.65	0.51	0.57	0.44	0.49	0.29	0.35

When a substance's percentage of consumers was below 66.0%, categories were defined as 1/non-consumers, 2/ lower, and 3/ higher consumers, with categories 2 and 3 separated by sex-specific median. In this configuration, only one cut-off is provided in this table for each period and sex, separating categories 2 and 3. Otherwise, categories were defined as 1/ lower, 2/ medium, and 3/ higher consumers by sex-specific tertiles. In this case, two cut-offs are provided to separate categories 1 and 2, and categories 2 and 3. All cut-off values are in mg/d.

Supplementary Table 7 - Associations between citric acid (E330) food additive intakes and type 2 diabetes risk among study participants from the NutriNet-Santé cohort, 2009-2023 (n=108,723), stratified by the naturally-occurring intake of citric acid ^a

		Lower consumers	Medium consumers	Higher consumers	p-value ^b
Below sex-specific median of naturally-occurring citric acid intake					
Citric Acid (E330)	Cases / Participants	176 / 24,240	208 / 22,855	167 / 20,511	0.06
	HR (95%CI)	1	1.27 (1.02 -1.57)	1.20 (0.96 -1.51)	
Above sex-specific median of naturally-occurring citric acid intake					
Citric Acid (E330)	Cases / Participants	164 / 21,066	180 / 22,552	236 / 21,679	0.004
	HR (95%CI)	1	1.02 (0.81 -1.27)	1.35 (1.09 -1.66)	

^a Same adjustment as for the main model (multi-adjusted proportional hazard Cox model, two-sided)

^b Likelihood Ratio Overall p-value

P for interaction between naturally occurring and food additive citric acid = 0.54.

Supplementary Table 8 – Dietary patterns derived by principal component analysis:
factor loadings

Food Categories	Factor Loadings	
	Healthy Pattern	Western Pattern
Alcoholic drinks	-0.14	0.30
Breakfast cereals	0.11	-0.07
Cakes and biscuits	-0.26	0.22
Dairy products	0.07	0.14
Eggs	0.13	0.08
Fats and sauces	0.06	0.68
Fish and seafood	0.28	0.11
Fruits	0.51	0.17
Meat and offal	-0.28	0.37
Pasta and rice	-0.29	0.48
Potatoes and tubers	0.01	0.46
Poultry	-0.06	0.09
Processed meat	-0.33	0.34
Pulses	0.32	0.03
Soups and broths	0.40	0.20
Sugar and confectionery	-0.11	0.34
Sweetened soft drinks	-0.41	0.11
Unsweetened soft drinks	0.37	0.28
Vegetables	0.69	0.27
Whole grains	0.56	-0.02

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