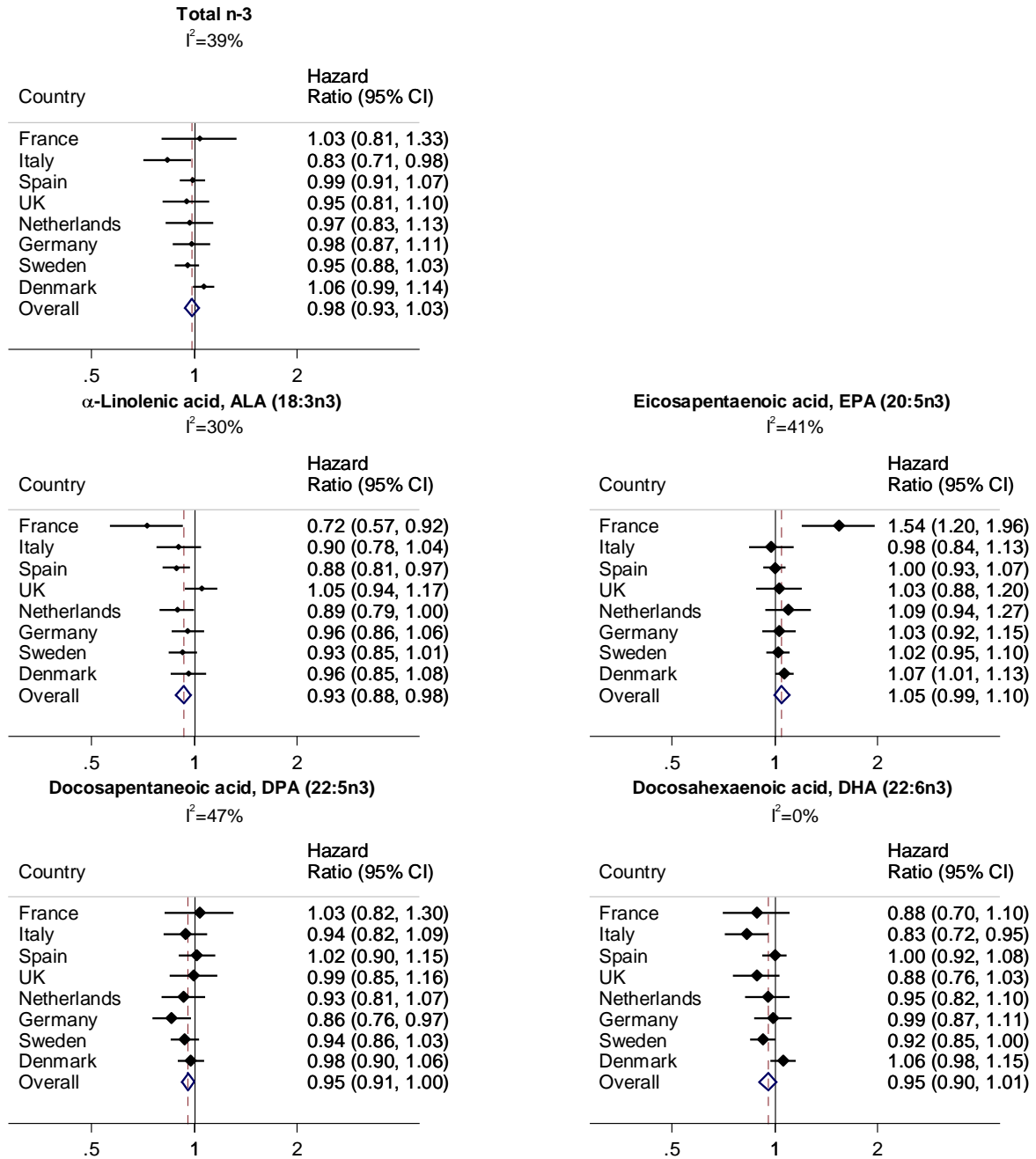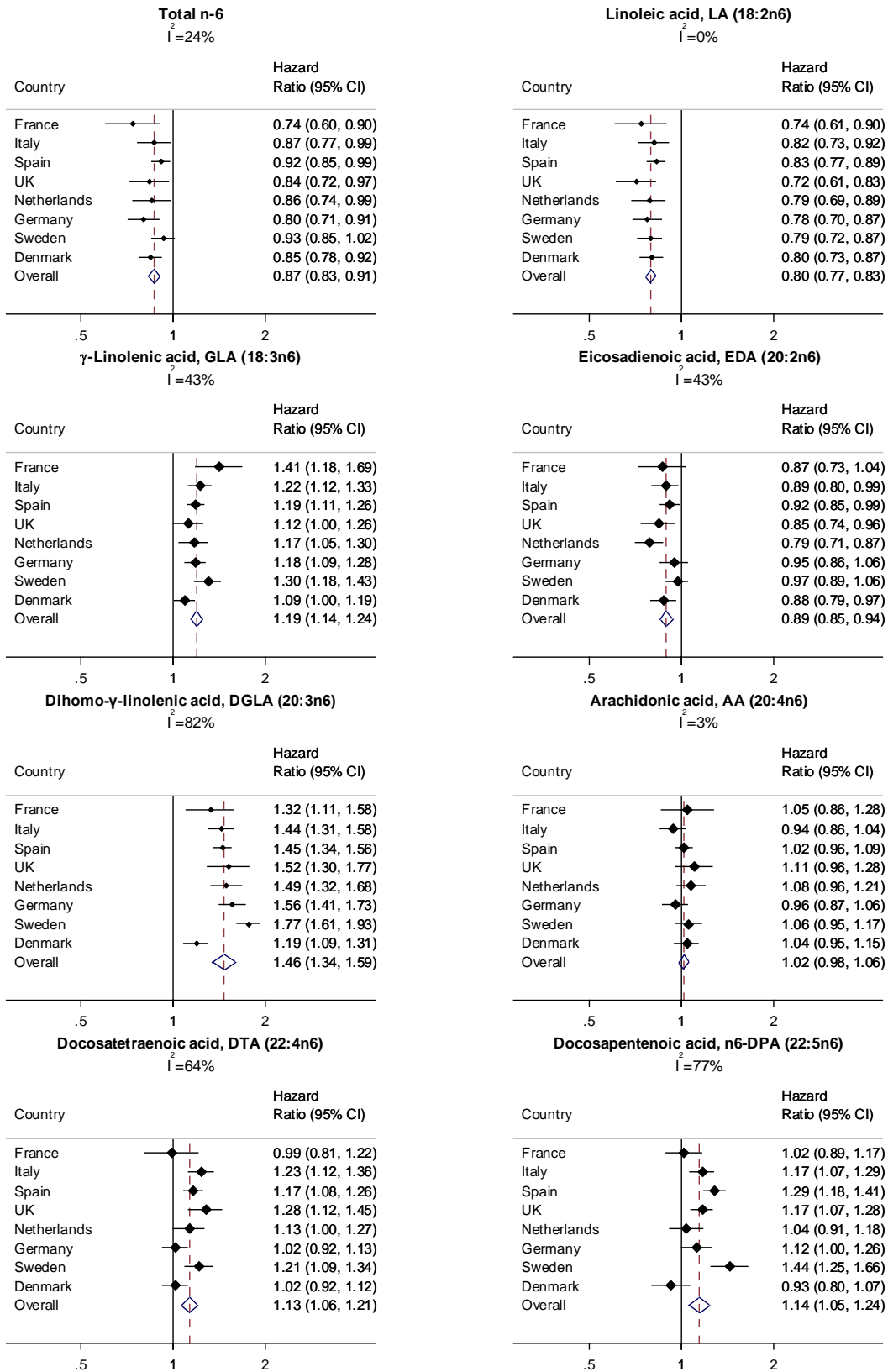**S1 Fig. Forest plots showing the country-specific HRs and 95% CIs for the association between per 1 SD of (A) total and individual n-3 PUFAs (ALA, EPA, DPA, and DHA) and T2D and (B) total and individual n-6 PUFAs (LA, GLA, EDA, DGLA, AA, DTA, and n6-DPA), as well as (C) fatty acid ratios and T2D from random-effects meta-analysis across the eight countries of EPIC-InterAct.**

S1A Fig. (n-3 PUFA - InterAct)

Total n-3
$I^2=39\%$

Country		Hazard Ratio (95% CI)
France		1.03 (0.81, 1.33)
Italy		0.83 (0.71, 0.98)
Spain		0.99 (0.91, 1.07)
UK		0.95 (0.81, 1.10)
Netherlands		0.97 (0.83, 1.13)
Germany		0.98 (0.87, 1.11)
Sweden		0.95 (0.88, 1.03)
Denmark		1.06 (0.99, 1.14)
Overall		0.98 (0.93, 1.03)

α-Linolenic acid, ALA (18:3n3)
$I^2=30\%$

Country		Hazard Ratio (95% CI)
France		0.72 (0.57, 0.92)
Italy		0.90 (0.78, 1.04)
Spain		0.88 (0.81, 0.97)
UK		1.05 (0.94, 1.17)
Netherlands		0.89 (0.79, 1.00)
Germany		0.96 (0.86, 1.06)
Sweden		0.93 (0.85, 1.01)
Denmark		0.96 (0.85, 1.08)
Overall		0.93 (0.88, 0.98)

Eicosapentaenoic acid, EPA (20:5n3)
$I^2=41\%$

Country		Hazard Ratio (95% CI)
France		1.54 (1.20, 1.96)
Italy		0.98 (0.84, 1.13)
Spain		1.00 (0.93, 1.07)
UK		1.03 (0.88, 1.20)
Netherlands		1.09 (0.94, 1.27)
Germany		1.03 (0.92, 1.15)
Sweden		1.02 (0.95, 1.10)
Denmark		1.07 (1.01, 1.13)
Overall		1.05 (0.99, 1.10)

Docosapentaneoic acid, DPA (22:5n3)
$I^2=47\%$

Country		Hazard Ratio (95% CI)
France		1.03 (0.82, 1.30)
Italy		0.94 (0.82, 1.09)
Spain		1.02 (0.90, 1.15)
UK		0.99 (0.85, 1.16)
Netherlands		0.93 (0.81, 1.07)
Germany		0.86 (0.76, 0.97)
Sweden		0.94 (0.86, 1.03)
Denmark		0.98 (0.90, 1.06)
Overall		0.95 (0.91, 1.00)

Docosahexaenoic acid, DHA (22:6n3)
$I^2=0\%$

Country		Hazard Ratio (95% CI)
France		0.88 (0.70, 1.10)
Italy		0.83 (0.72, 0.95)
Spain		1.00 (0.92, 1.08)
UK		0.88 (0.76, 1.03)
Netherlands		0.95 (0.82, 1.10)
Germany		0.99 (0.87, 1.11)
Sweden		0.92 (0.85, 1.00)
Denmark		1.06 (0.98, 1.15)
Overall		0.95 (0.90, 1.01)

S1B Fig (n-6 PUFA - InterAct)

Total n-6
$I^2=24\%$

Country	Hazard Ratio (95% CI)
France	0.74 (0.60, 0.90)
Italy	0.87 (0.77, 0.99)
Spain	0.92 (0.85, 0.99)
UK	0.84 (0.72, 0.97)
Netherlands	0.86 (0.74, 0.99)
Germany	0.80 (0.71, 0.91)
Sweden	0.93 (0.85, 1.02)
Denmark	0.85 (0.78, 0.92)
Overall	0.87 (0.83, 0.91)

Linoleic acid, LA (18:2n6)
$I^2=0\%$

Country	Hazard Ratio (95% CI)
France	0.74 (0.61, 0.90)
Italy	0.82 (0.73, 0.92)
Spain	0.83 (0.77, 0.89)
UK	0.72 (0.61, 0.83)
Netherlands	0.79 (0.69, 0.89)
Germany	0.78 (0.70, 0.87)
Sweden	0.79 (0.72, 0.87)
Denmark	0.80 (0.73, 0.87)
Overall	0.80 (0.77, 0.83)

γ-Linolenic acid, GLA (18:3n6)
$I^2=43\%$

Country	Hazard Ratio (95% CI)
France	1.41 (1.18, 1.69)
Italy	1.22 (1.12, 1.33)
Spain	1.19 (1.11, 1.26)
UK	1.12 (1.00, 1.26)
Netherlands	1.17 (1.05, 1.30)
Germany	1.18 (1.09, 1.28)
Sweden	1.30 (1.18, 1.43)
Denmark	1.09 (1.00, 1.19)
Overall	1.19 (1.14, 1.24)

Eicosadienoic acid, EDA (20:2n6)
$I^2=43\%$

Country	Hazard Ratio (95% CI)
France	0.87 (0.73, 1.04)
Italy	0.89 (0.80, 0.99)
Spain	0.92 (0.85, 0.99)
UK	0.85 (0.74, 0.96)
Netherlands	0.79 (0.71, 0.87)
Germany	0.95 (0.86, 1.06)
Sweden	0.97 (0.89, 1.06)
Denmark	0.88 (0.79, 0.97)
Overall	0.89 (0.85, 0.94)

Dihomo-γ-linolenic acid, DGLA (20:3n6)
$I^2=82\%$

Country	Hazard Ratio (95% CI)
France	1.32 (1.11, 1.58)
Italy	1.44 (1.31, 1.58)
Spain	1.45 (1.34, 1.56)
UK	1.52 (1.30, 1.77)
Netherlands	1.49 (1.32, 1.68)
Germany	1.56 (1.41, 1.73)
Sweden	1.77 (1.61, 1.93)
Denmark	1.19 (1.09, 1.31)
Overall	1.46 (1.34, 1.59)

Arachidonic acid, AA (20:4n6)
$I^2=3\%$

Country	Hazard Ratio (95% CI)
France	1.05 (0.86, 1.28)
Italy	0.94 (0.86, 1.04)
Spain	1.02 (0.96, 1.09)
UK	1.11 (0.96, 1.28)
Netherlands	1.08 (0.96, 1.21)
Germany	0.96 (0.87, 1.06)
Sweden	1.06 (0.95, 1.17)
Denmark	1.04 (0.95, 1.15)
Overall	1.02 (0.98, 1.06)

Docosatetraenoic acid, DTA (22:4n6)
$I^2=64\%$

Country	Hazard Ratio (95% CI)
France	0.99 (0.81, 1.22)
Italy	1.23 (1.12, 1.36)
Spain	1.17 (1.08, 1.26)
UK	1.28 (1.12, 1.45)
Netherlands	1.13 (1.00, 1.27)
Germany	1.02 (0.92, 1.13)
Sweden	1.21 (1.09, 1.34)
Denmark	1.02 (0.92, 1.12)
Overall	1.13 (1.06, 1.21)

Docosapentenoic acid, n6-DPA (22:5n6)
$I^2=77\%$

Country	Hazard Ratio (95% CI)
France	1.02 (0.89, 1.17)
Italy	1.17 (1.07, 1.29)
Spain	1.29 (1.18, 1.41)
UK	1.17 (1.07, 1.28)
Netherlands	1.04 (0.91, 1.18)
Germany	1.12 (1.00, 1.26)
Sweden	1.44 (1.25, 1.66)
Denmark	0.93 (0.80, 1.07)
Overall	1.14 (1.05, 1.24)

2

S1C Fig (PUFA ratios - InterAct)

Ratio: 18:3n6 / 18:2n6 (Δ6 desaturase)
$I^2 = 39\%$

Country		Hazard Ratio (95% CI)
France		1.44 (1.22, 1.70)
Italy		1.19 (1.10, 1.29)
Spain		1.22 (1.14, 1.31)
UK		1.19 (1.04, 1.35)
Netherlands		1.19 (1.06, 1.34)
Germany		1.17 (1.09, 1.27)
Sweden		1.29 (1.18, 1.41)
Denmark		1.11 (1.03, 1.20)
Overall		1.21 (1.16, 1.26)

.5   1   2

Ratio: 20:4n6 / 20:3n6 (Δ5 desaturase)
$I^2 = 79\%$

Country		Hazard Ratio (95% CI)
France		0.74 (0.60, 0.91)
Italy		0.69 (0.62, 0.78)
Spain		0.77 (0.72, 0.83)
UK		0.76 (0.64, 0.89)
Netherlands		0.79 (0.69, 0.91)
Germany		0.64 (0.57, 0.72)
Sweden		0.63 (0.57, 0.69)
Denmark		0.87 (0.80, 0.96)
Overall		0.73 (0.67, 0.80)

.5   1   2

Ratio: 20:3n6 / 18:2n6 (DGLA to LA ratio)
$I^2 = 82\%$

Country		Hazard Ratio (95% CI)
France		1.16 (1.03, 1.32)
Italy		1.37 (1.26, 1.49)
Spain		1.44 (1.35, 1.55)
UK		1.63 (1.41, 1.88)
Netherlands		1.49 (1.32, 1.67)
Germany		1.55 (1.39, 1.72)
Sweden		1.72 (1.57, 1.88)
Denmark		1.27 (1.16, 1.40)
Overall		1.44 (1.33, 1.57)

.5   1   2

Ratio: n6 / n3
$I^2 = 40\%$

Country		Hazard Ratio (95% CI)
France		0.88 (0.67, 1.17)
Italy		1.11 (0.99, 1.24)
Spain		1.00 (0.92, 1.07)
UK		1.02 (0.88, 1.17)
Netherlands		1.00 (0.89, 1.13)
Germany		0.94 (0.84, 1.05)
Sweden		1.02 (0.91, 1.14)
Denmark		0.86 (0.77, 0.96)
Overall		0.98 (0.93, 1.04)

.5   1   2

3