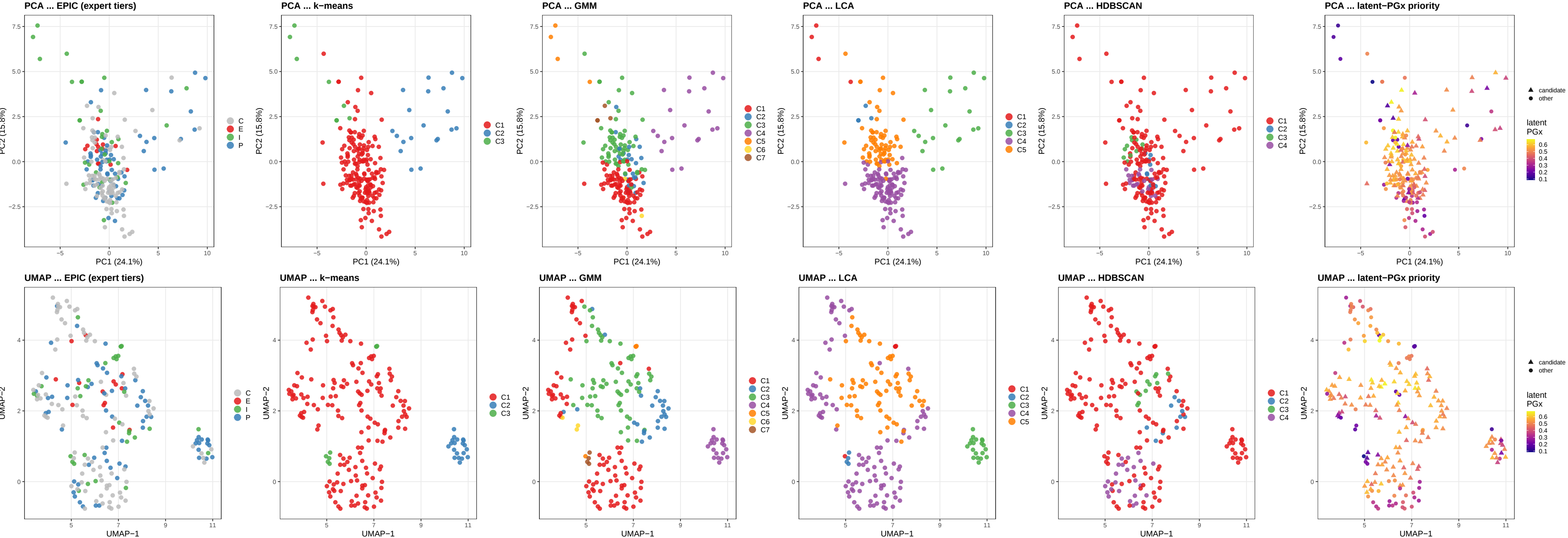


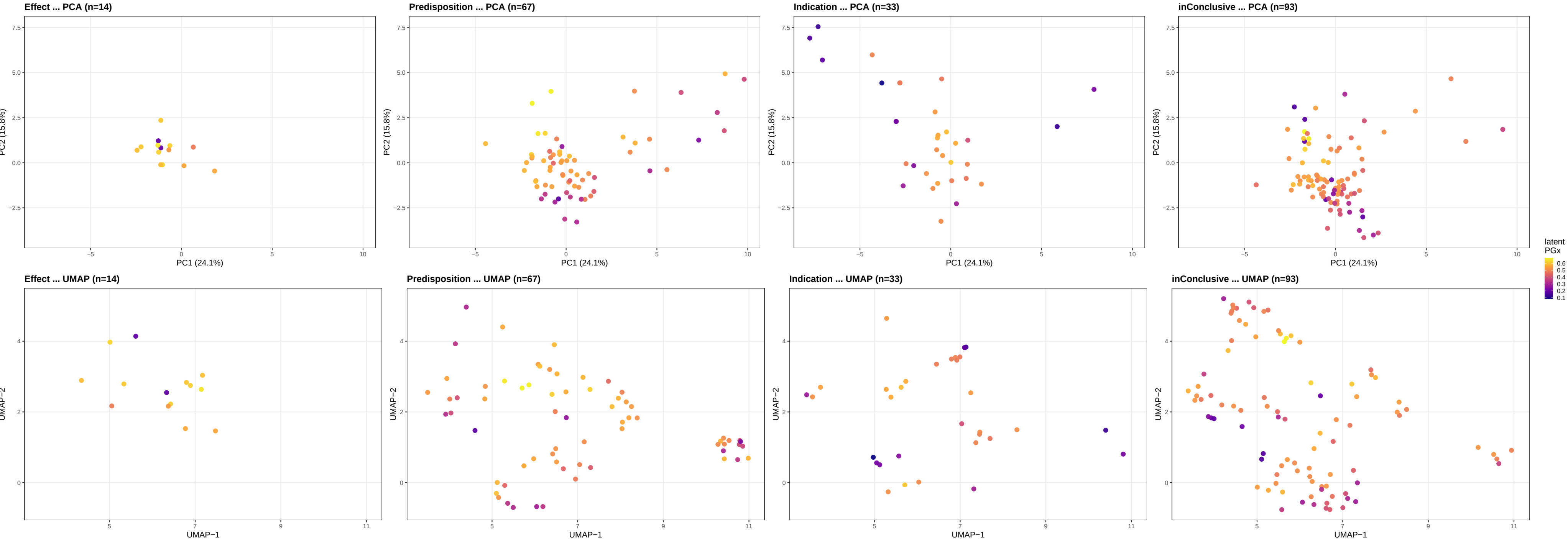
ABM Atlas ... PCA & UMAP projections of 207 locus×phenotype associations (27–feature self–contained model, locus–collapsed)

Top: PCA. Bottom: UMAP. Columns: expert EPIC tiers, four unsupervised classifiers, and the continuous latent–PGx prioritisation score (triangles = gated candidates).



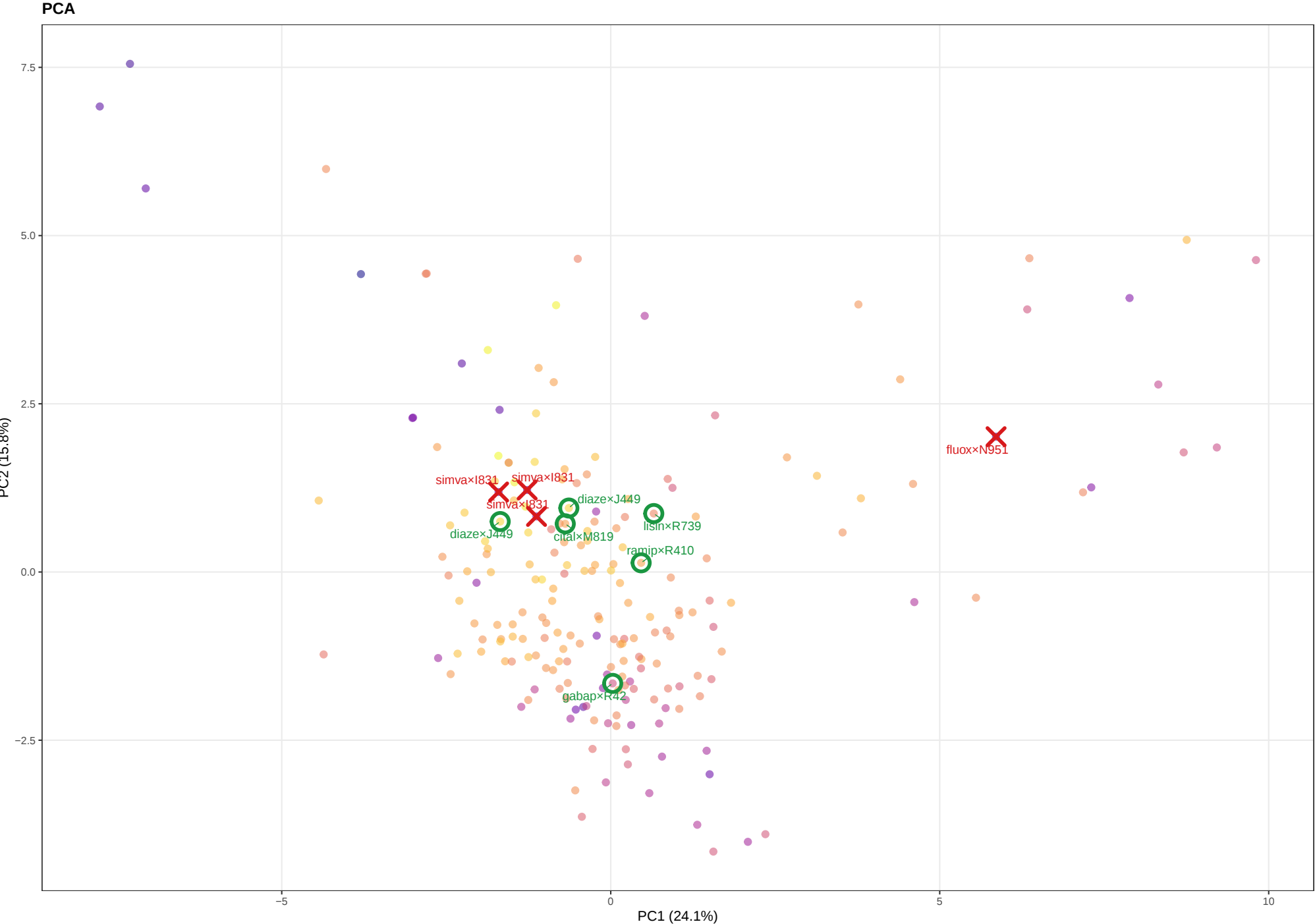
Expert EPIC classes coloured by latent-PGx score

Each panel shows only the named expert class (top: PCA, bottom: UMAP); shared latent-PGx colour scale and axes.



Curated associations marked on the latent-PGx landscape

Green circles = GOOD (target ADRs under review). Red crosses = BAD (expert-flagged comorbidity / indication). Fill = latent-PGx score.



ABM Atlas ... cluster names, EPIC overlap and description (v20, 34-feature model)

EPIC: E=Effect P=Predisposition I=Indication C=inConclusive. Overlap = % of each cluster's members falling in each expert EPIC tier.

Method	CI	n	Cluster name	EPIC	EPIC overlap % (E/P/I/C)	Description
KMEANS	C1	179	Mixed background	P	E 8 / P 30 / I 14 / C 48	NA
KMEANS	C2	20	Rare-variant predisposition	P	E 0 / P 65 / I 10 / C 25	NA
KMEANS	C3	8	Indication (pleiotropic)	I	E 0 / P 0 / I 75 / C 25	NA
GMM	C1	20	Rare-variant predisposition	P	E 0 / P 65 / I 10 / C 25	NA
GMM	C2	67	Weak-evidence residual	I	E 0 / P 31 / I 9 / C 60	NA
GMM	C3	31	Weak-evidence residual	P	E 10 / P 13 / I 3 / C 74	NA
GMM	C4	23	Predisposition-leaning	P	E 0 / P 44 / I 22 / C 35	NA
GMM	C5	9	On-label indication	I	E 0 / P 0 / I 100 / C 0	NA
GMM	C6	2	On-label indication	I	E 0 / P 0 / I 100 / C 0	NA
GMM	C7	45	Drug-amplified mechanism (effect-enriched)	P	E 24 / P 38 / I 11 / C 27	NA
GMM	C8	4	Mixed background	I	E 0 / P 0 / I 50 / C 50	NA
GMM	C9	2	Predisposition-leaning	P	E 0 / P 50 / I 0 / C 50	NA
GMM	C10	4	Mixed background	P	E 0 / P 25 / I 25 / C 50	NA
LCA	C1	7	On-label indication	I	E 0 / P 0 / I 100 / C 0	NA
LCA	C2	5	Indication (pleiotropic)	I	E 0 / P 0 / I 60 / C 40	NA
LCA	C3	97	Weak-evidence residual	P	E 0 / P 29 / I 10 / C 61	NA
LCA	C4	79	Mixed background	P	E 18 / P 34 / I 14 / C 34	NA
LCA	C5	19	Rare-variant predisposition	P	E 0 / P 63 / I 10 / C 26	NA
HDBSCAN	C1	139	Mixed background	I	E 4 / P 31 / I 19 / C 46	NA
HDBSCAN	C2	14	Mixed background	P	E 7 / P 29 / I 21 / C 43	NA
HDBSCAN	C3	54	Predisposition-leaning	P	E 15 / P 37 / I 6 / C 43	NA