

HierarchicalMP Version Evolution Summary

Version	Key Innovation	Exact Match	Throughput	Memory
v1.0	Basic FAISS + RAR	10.4%	50 mol/s	~200 MB
v3.0	External SMP data (275k)	45.2%	120 mol/s	150 MB
v4.0	Bradley dataset + Binary IVF	92.6%	180 mol/s	120 MB
v5.0	CQR calibration + packed FP	98.3%	242 mol/s	68 MB
v7.0	uint64 popcount + SMILES short-circuit	96.8%	948 mol/s	50 MB