

Table 1

Task	Metric	Dataset	RQ-VAE	RQ-VAE-ECM	RQ-VAE-RRS	RQ-VAE-ECM vs RQ-VAE p-val (<0.05)	RQ-VAE-RRS vs RQ-VAE p-val (<0.05)
Sequential Recommendation	AVG Recall@5 over 3 trials	Amazon-Beauty	0.0184	0.0190	0.0186	0.0168	0.0113
		Amazon-Sports	0.0121	0.0131	0.0132	0.0383	0.0239
		Amazon-Toys	0.0176	0.0182	0.0186	0.0191	0.0037

Table 2

Task	Metric	Dataset	RQ-VAE	RQVAE-ECM	RQ-VAE-RRS	RQ-VAE-ECM vs RQ-VAE p-val (<0.05)	RQ-VAE-RRS vs RQ-VAE p-val (<0.05)
Product Search	AVG NDCG@5 over 3 trials	Amazon-Beauty	0.2610	0.2692	0.2701	0.0039	0.0051
		Amazon-Sports	0.2802	0.2862	0.2869	0.0112	0.0028
		Amazon-Toys	0.2494	0.2693	0.2623	0.0004	0.0007

Table 3

Task	Metric	Dataset	RQ-VAE	RQ-VAE-ECM	RQ-VAE-RRS	RQ-VAE-ECM vs RQ-VAE p-val (<0.05)	RQ-VAE-RRS vs RQ-VAE p-val (<0.05)
Document Retrieval	AVG Recall@1 over 3 trials	NQ320k	0.6307	0.6445	0.6443	0.0093	0.0075
		MS MARCO-1M	0.1960	0.2097	0.2070	0.0035	0.0008

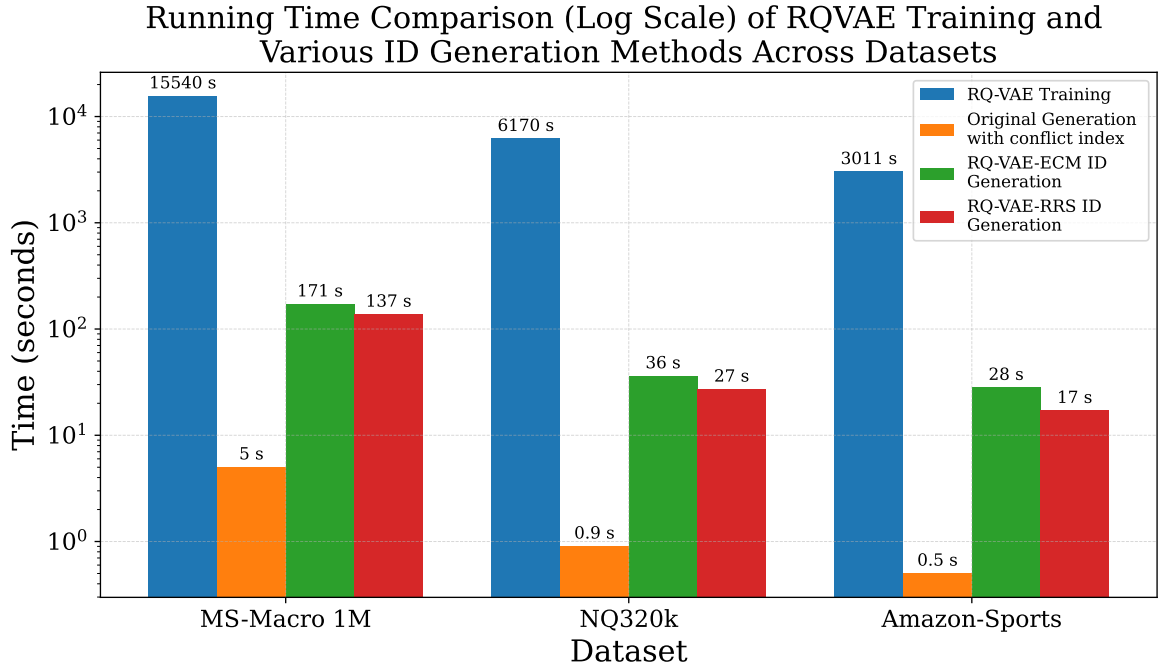


Figure 1