Model	$\mathrm{Deg}\downarrow$	$\mathrm{Clus}\downarrow$	$\mathrm{Orb}\downarrow$	V.U.N. \downarrow				
Stochastic Block Model								
SPECTRE	1.9	1.6	1.6	53%				
ConGress	34.1	3.1	4.5	0%				
DiGress	1.6	1.5	1.7	74%				
Flow Matching	10.2	2.0	3.2	22%				
Dirichlet FM	1.7	1.5	1.4	80%				
CatFlow	1.5	1.5	1.4	85%				
Planar Graphs								
SPECTRE	2.5	2.5	2.4	25%				
ConGress	23.8	8.8	2590	0%				
DiGress	1.4	1.2	1.7	75%				
Flow Matching	5.1	5.6	5.5	30%				
Dirchlet FM	1.5	1.3	1.5	80 %				
CatFlow	1.4	1.3	1.5	80 %				

Table 1: Results on Stochastic Block Model and Planar Graphs. We ran extra experiments for **(standard) flow matching and Dirichlet flow matching**. We observe that CatFlow obtains SOTA performance on all tasks and metrics. Moreover, it is worth noting CatFlow was significantly faster to train than Dirichlet FM due to a computationally cheaper forward process.

	QM9			ZINC250k			
	Valid \uparrow	Unique \uparrow	FCD \downarrow	Valid \uparrow	Unique \uparrow	$\mathrm{FCD}\downarrow$	
MoFlow	91.36	98.65	4.467	63.11	99.99	20.931	
EDP-GNN	47.52	99.25	2.680	82.97	99.79	16.737	
GraphEBM	8.22	97.90	6.143	5.29	98.79	35.471	
GDSS	95.72	98.46	2.900	97.01	99.64	14.656	
Digress	99.00	96.20	-	-	-	-	
Flow Matching	94.10	98.20	5.155	94.01	96.98	18.764	
Dirichlet FM CatFlow	99.10 99.81	98.15 99.95	0.888 0.441	97.52 99.21	99.20 100.00	14.222 13.211	

Table 2: Results molecular generation. We ran extra experiments for (standard) flow matching and Dirichlet flow matching. We observe that CatFlow beats SOTA performance on all tasks and metrics. Moreover, it is worth noting CatFlow was significantly faster to train than Dirichlet FM due to a computationally cheaper forward process.