

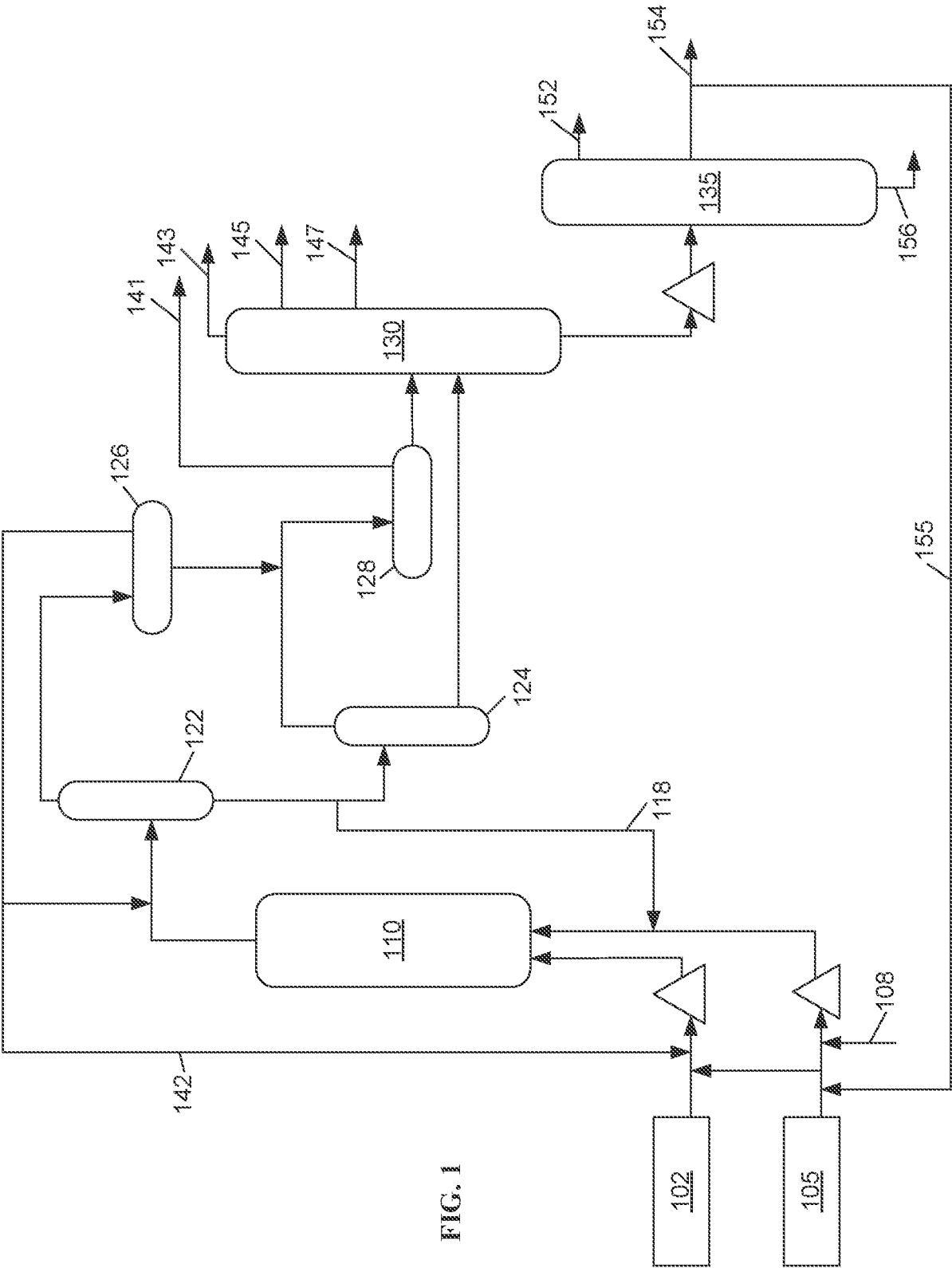


FIG. 1

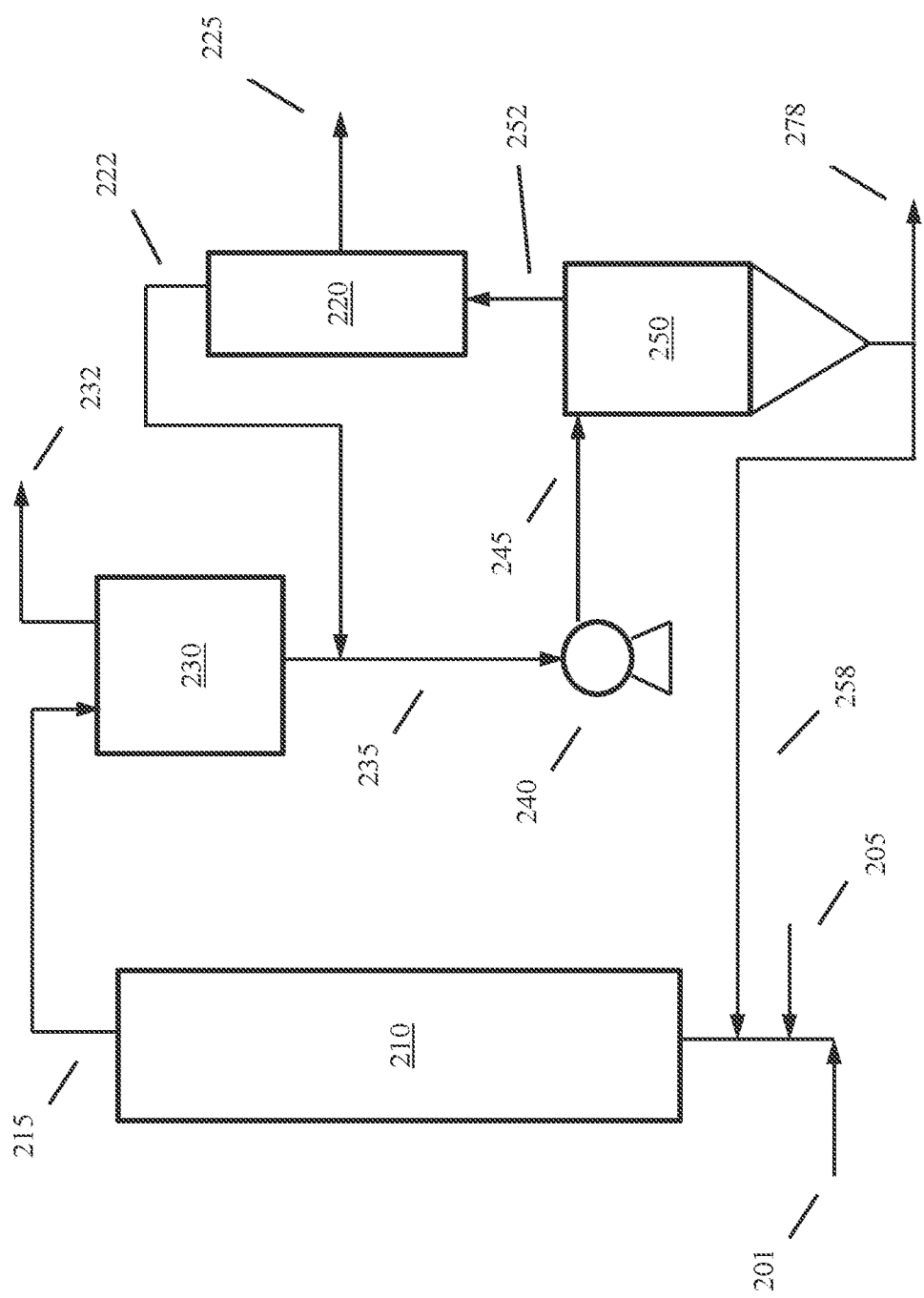


FIG. 2

	Aromatic 165-90 ppm	Aliphatic 90-0 ppm	-O-C-				Aromatic cluster size
Pitch from Mild Slurry Hydroprocessing	70.5	29.5	1.3	0.7	0	0	15.5
Pitch after Oxidative Ring Opening	65.8	32.4	2.6	1.9	1.7	0	14

FIG. 3

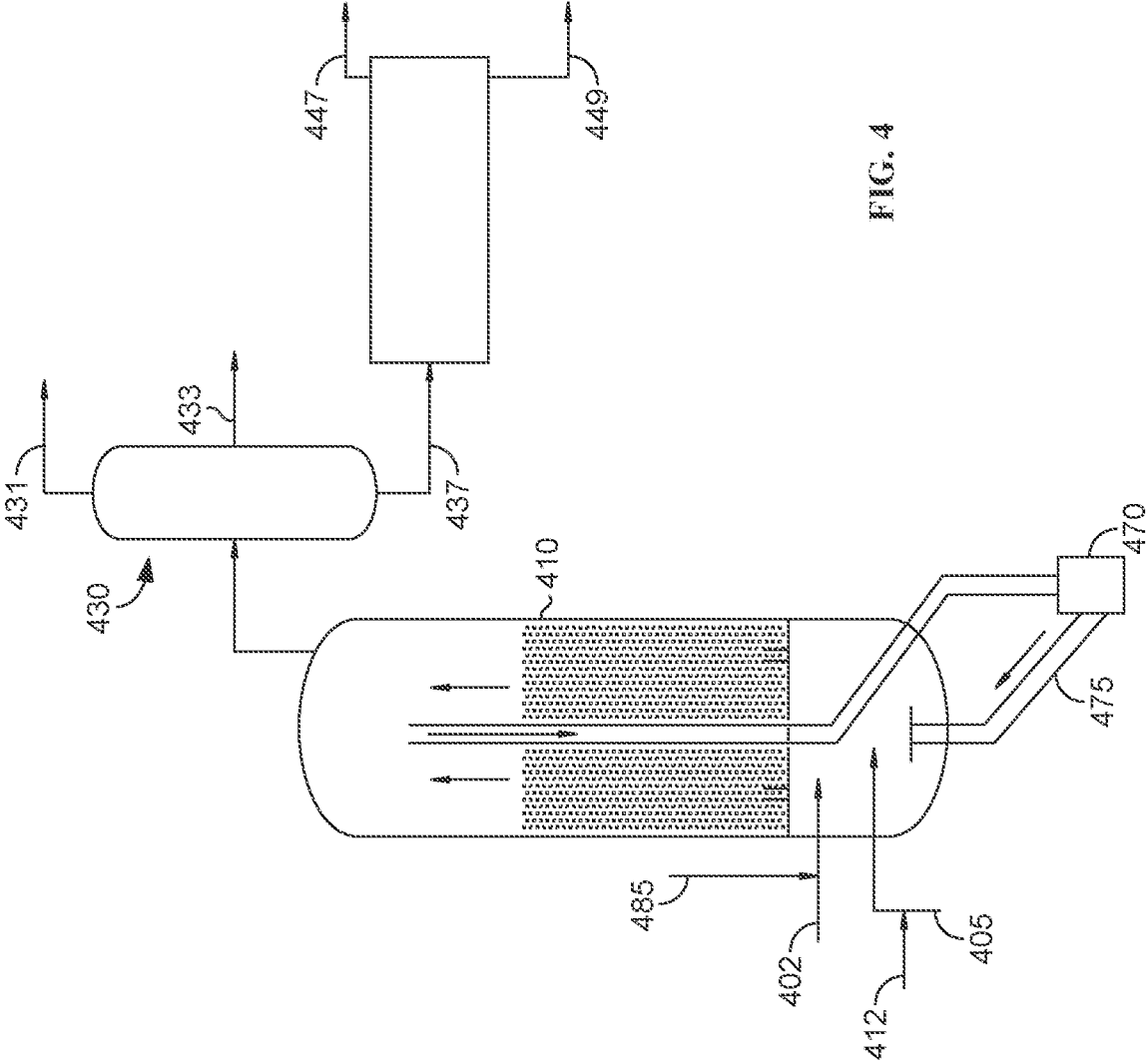
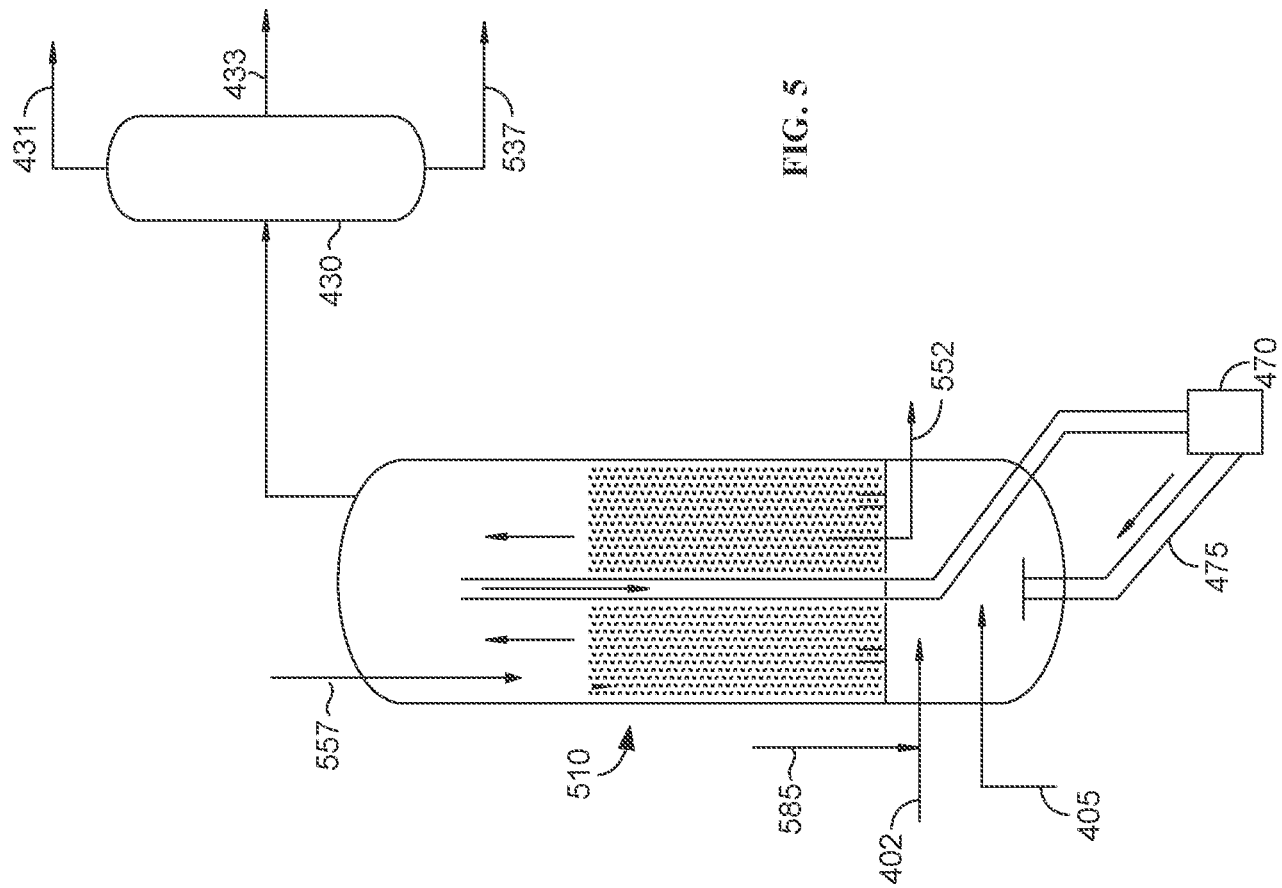


FIG. 4



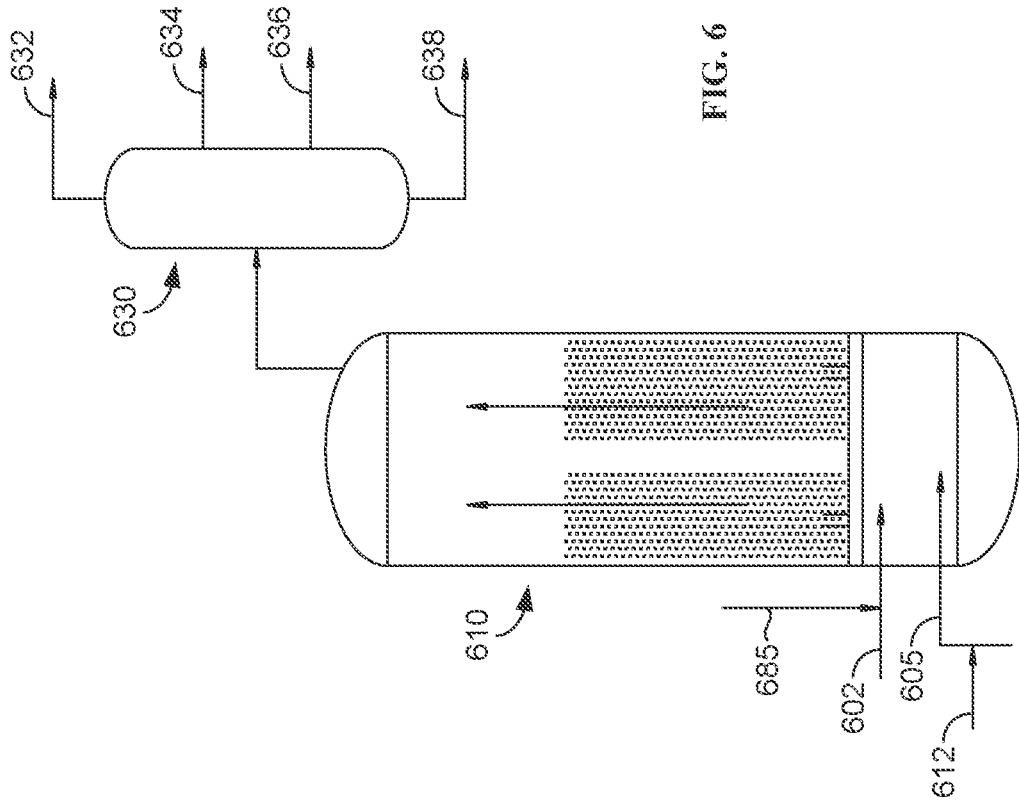


FIG. 6

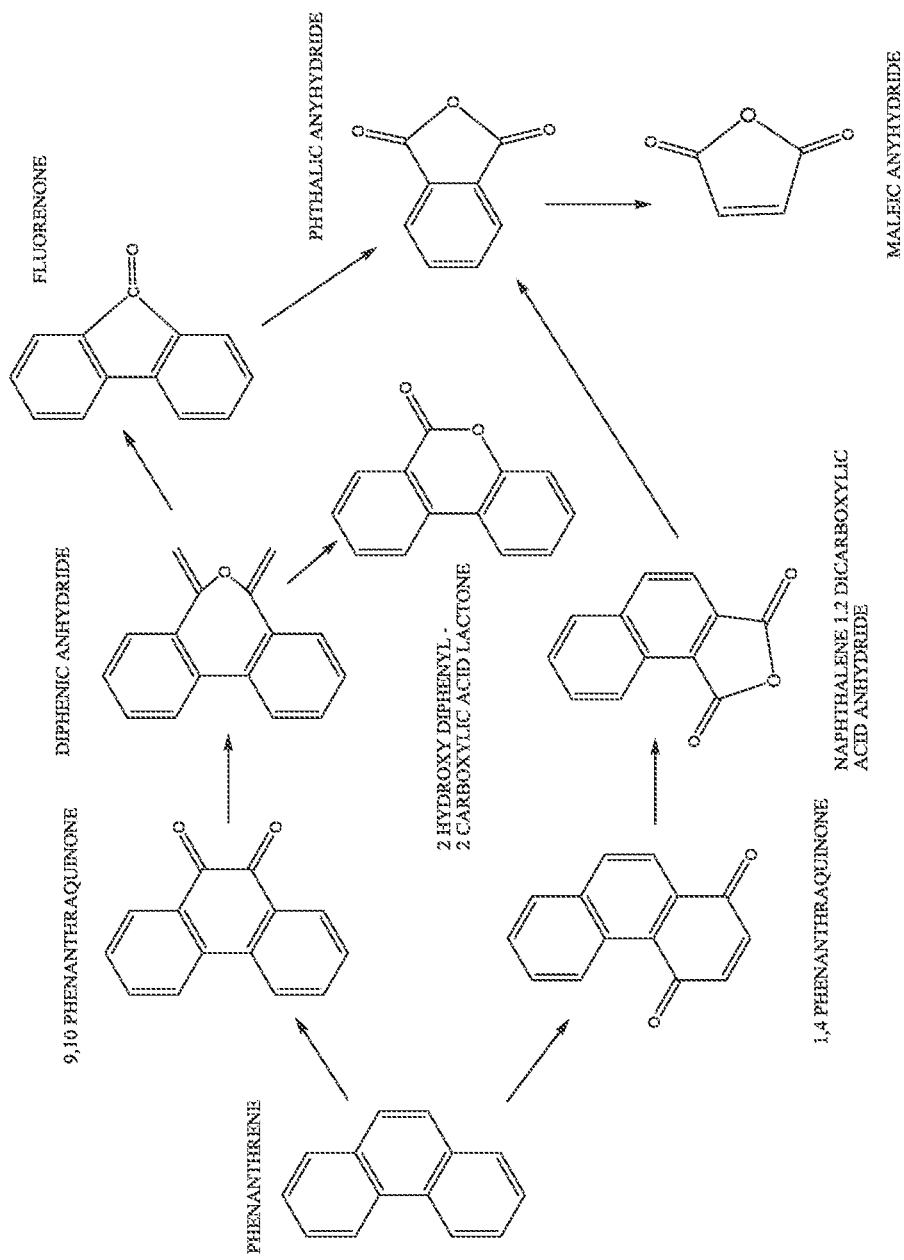


FIG. 7

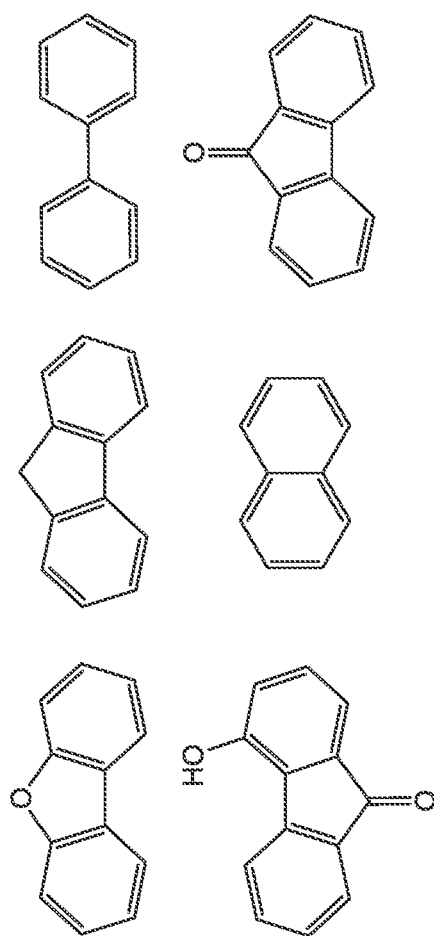


FIG. 8

	Cat System A	Cat System B	Cat System C	Cat System D	Cat System E
Iron Source	Fe(CO) ₅	Fe(CO) ₅	FeSO ₄	FeSO ₄	FeSO ₄
Fe on Feed (wppm)	~3000	~3000	~2210	~1920	~1920
Mo Source	PMA (presulfided preformed)	PMA (presulfided)	PMA (presulfided preformed)	PMA (presulfided)	PMA (presulfided)
Mo on Feed (wppm)	~116	~116	~170	~174	~174
Tl on 975F+ feed (wt%)	~1.9	~1.8	~6.4	~1.6	~1.8
Equivalent Mo (wppm)	~230	~250		~270	~240
Mo/Fe weight ratio	~26	~26	~13	~11	~11

FIG. 9