

1/11

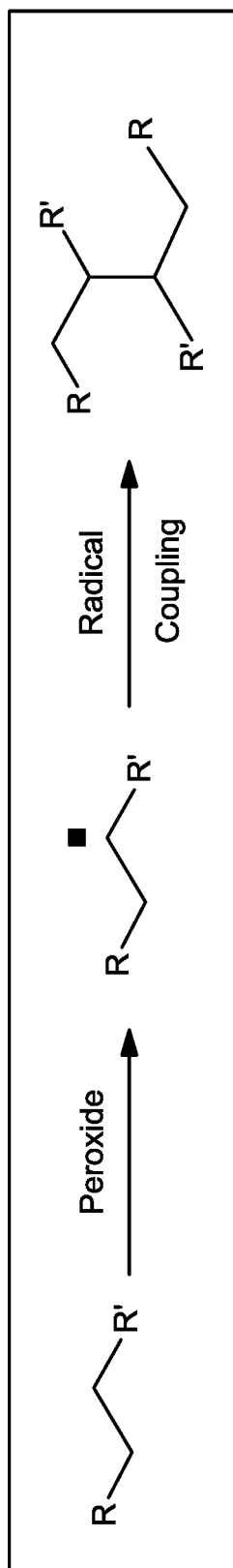


FIG. 1

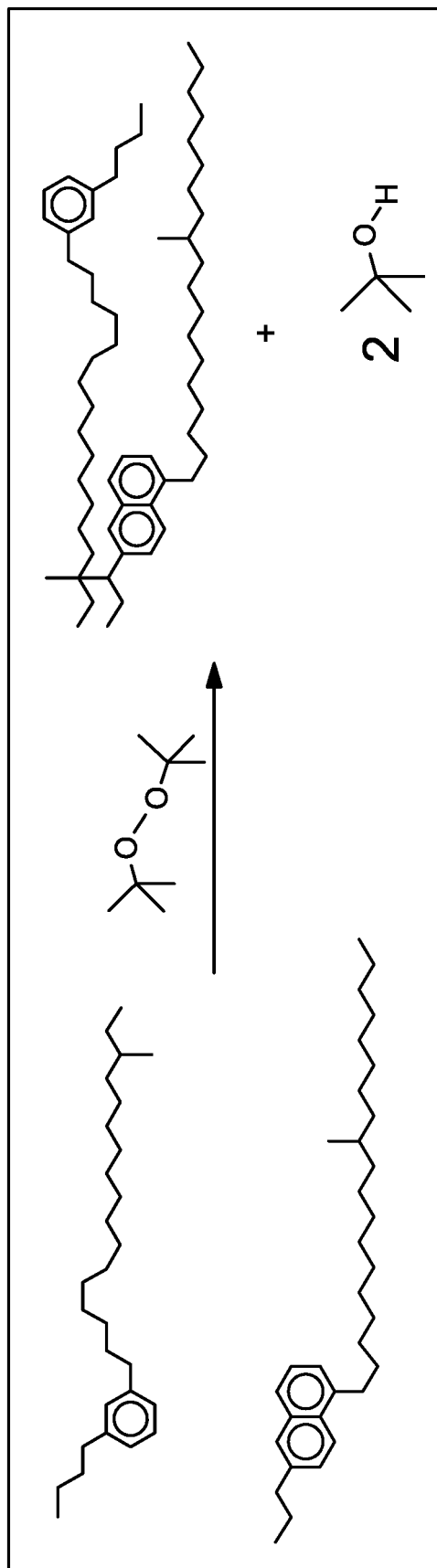


FIG. 2

2/11

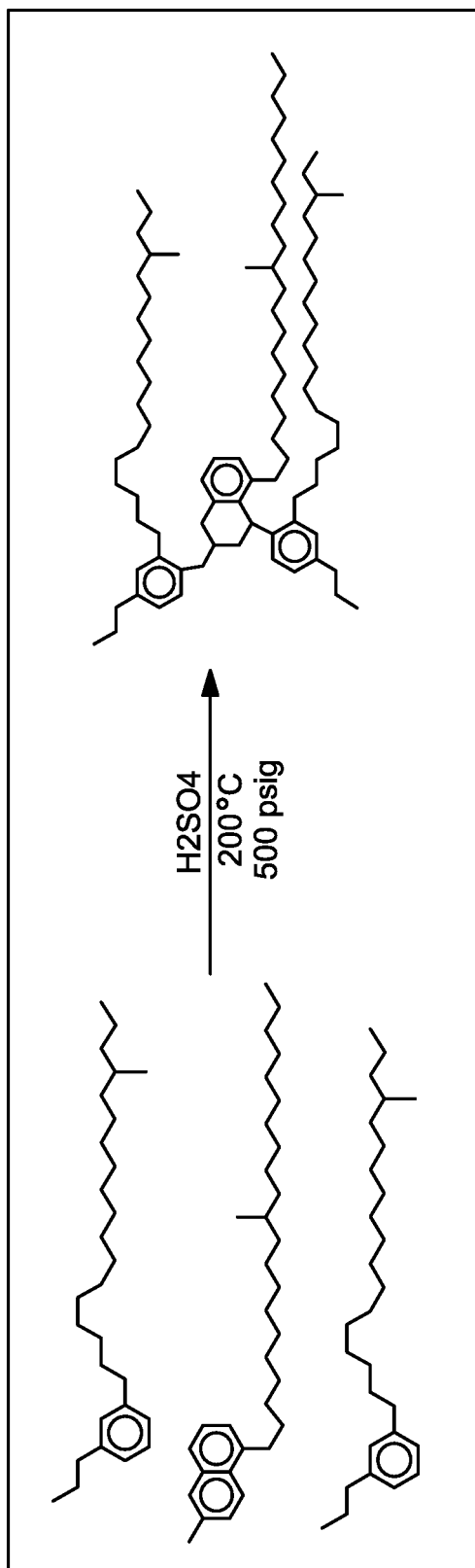


FIG. 3

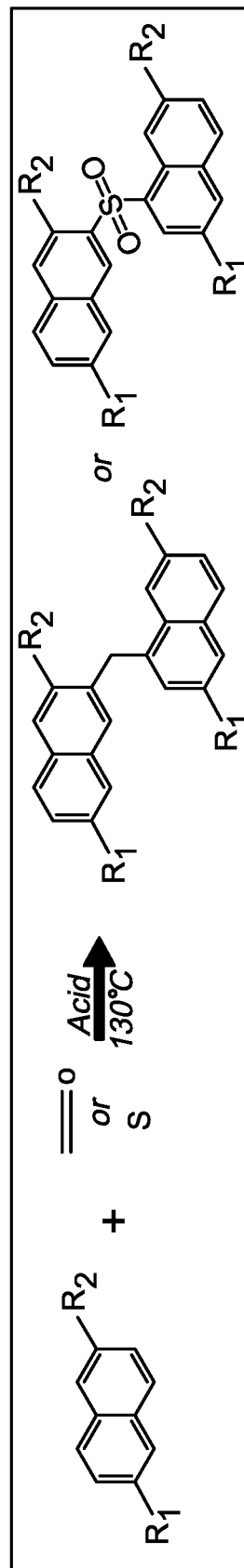


FIG. 4

3/11

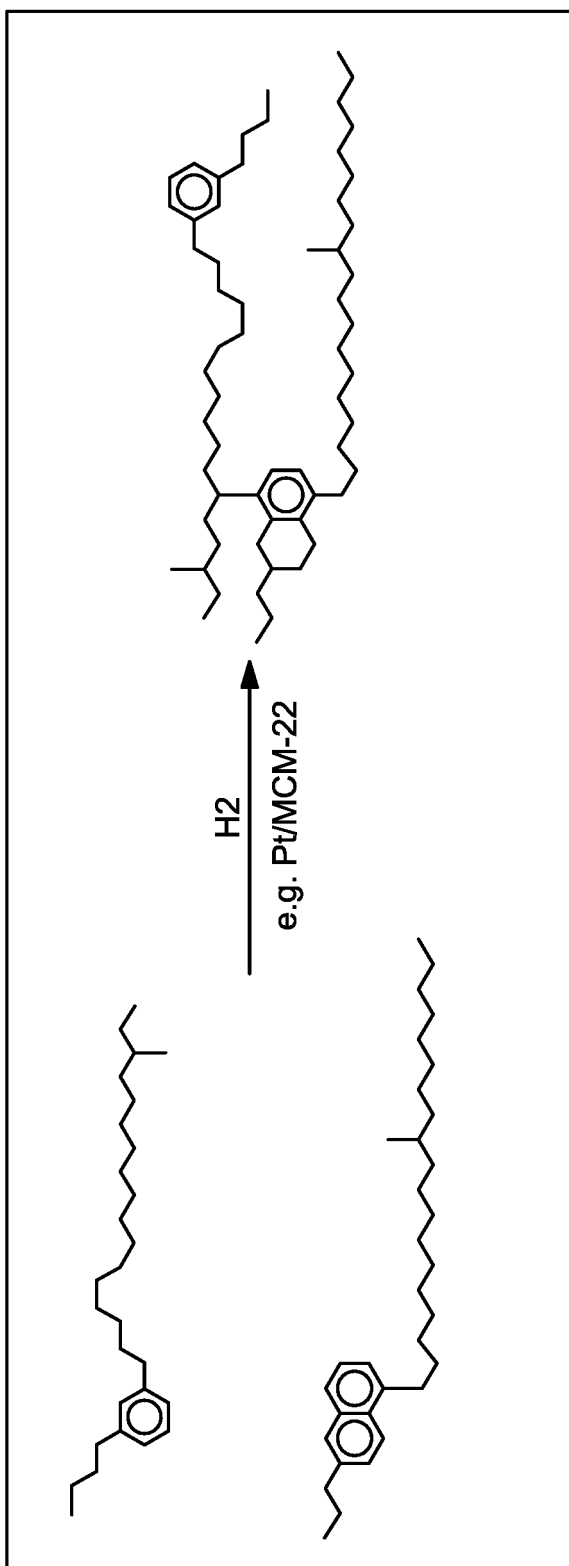


FIG. 5

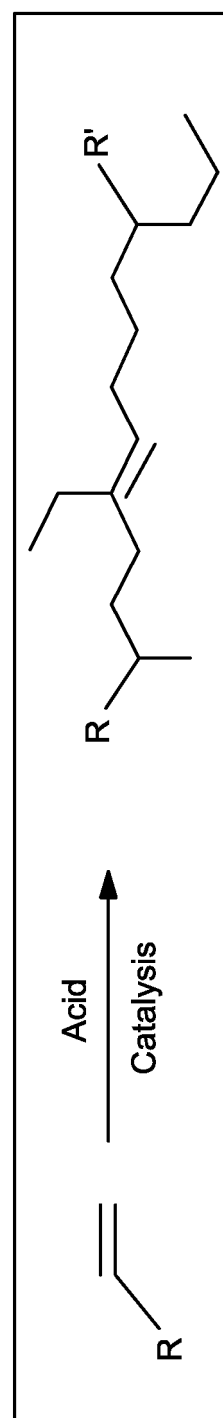


FIG. 6

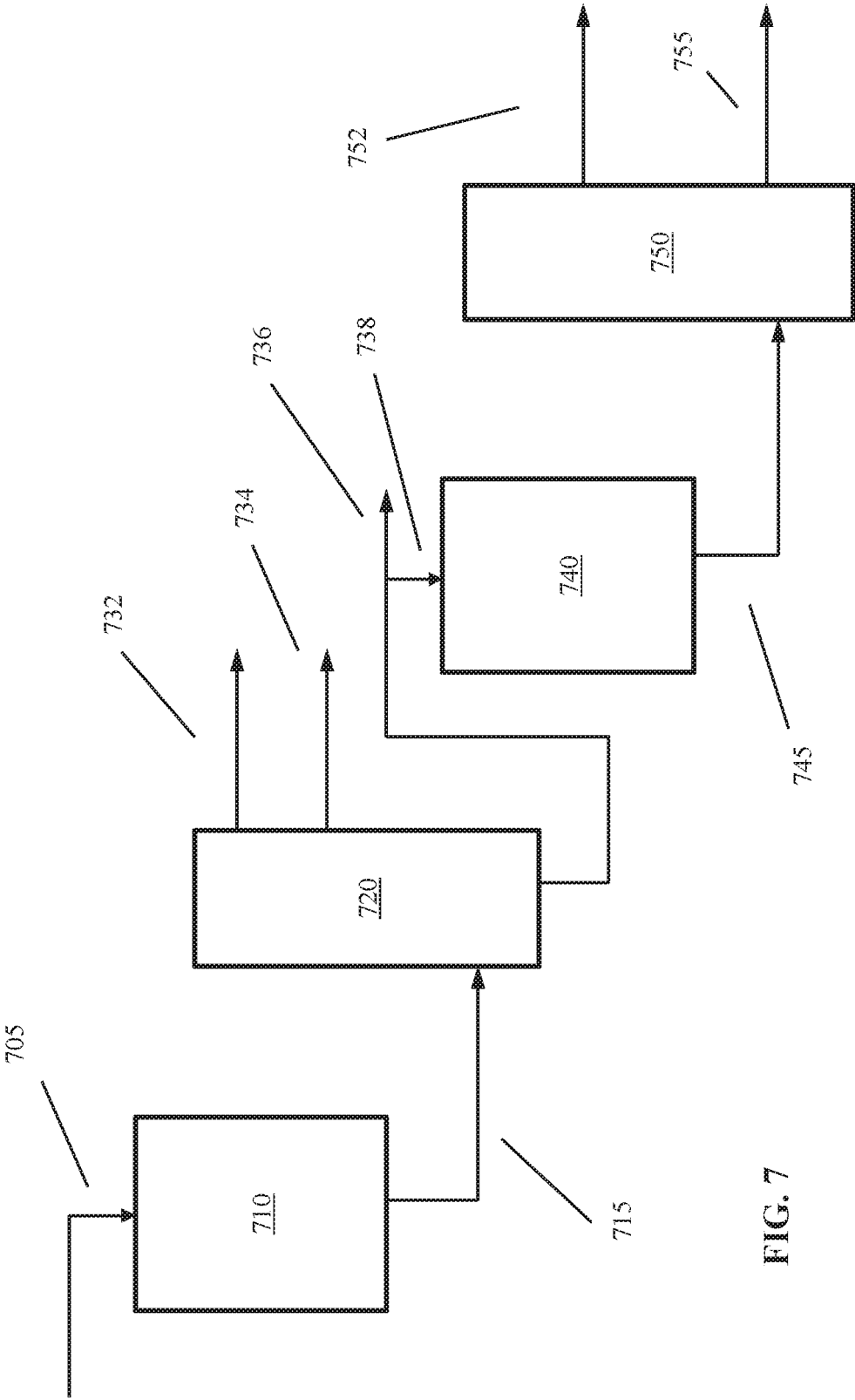


FIG. 7

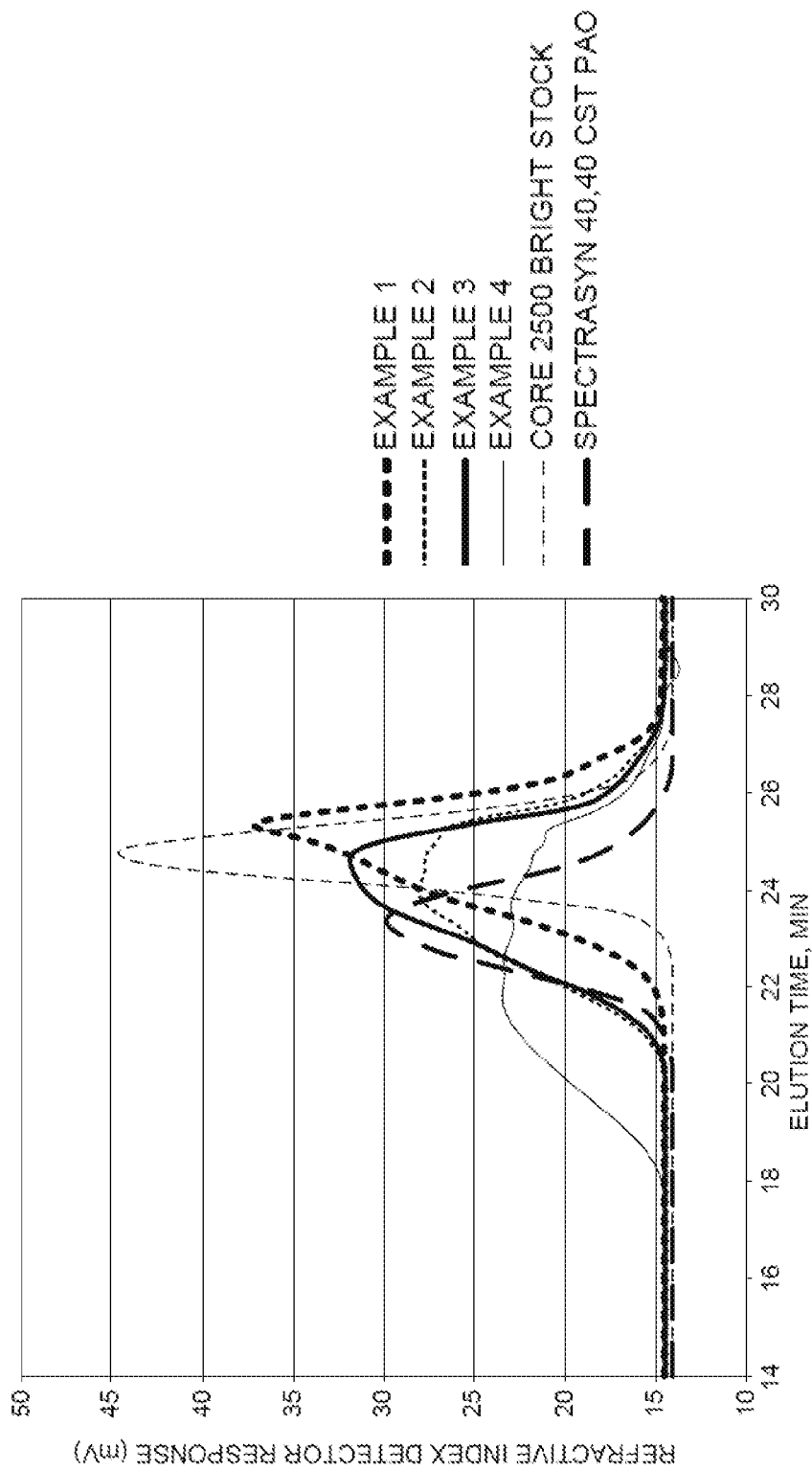


FIG. 8

Description		CORE 2500 Group I Bright Stock	Example 1	Example 2	Example 3	Example 4
Derived from		NA	Core 100	Core 100	Core 100	Core 100
Amount of Peroxide Added/Add Time			10%/2 hrs	30%/2 hrs	30%/4 hrs	60%/4 hrs
Hydrofinished		NA	No	Yes	Yes	Yes
Viscosity @ 100°C, cSt	Kinematic Viscosity	31.6	35.1	43.7	110.6	161.5
Viscosity @ 40°C, cSt	Kinematic Viscosity	476	657	701	3684	3702
Viscosity Index		97	85	106	111	137
Density@15.6°C, g/cc		0.9019	0.9075	0.8990	0.9147	0.9041
Sulfur, %	ASTM D2622-1	1.15%	ND	0.34%	0.35%	0.29%
Aniline Point, °C	ASTM D611	120.0	111.7	125.6	128.0	146.7
Glass Transition Temperature Tg, °C	Differential Scanning Calorimetry (DSC)	-58.8	ND	-69.34	-50.40	-61.20
Crystallization Temperature Tc, °C	DSC	-6.25	ND	-35.97	<-60°C	<-60°C
Quantitative Carbon-13 NMR						
% Epsilon Carbon	@ 29 - 31 ppm	27.3%	21.4%	19.0%	20.2%	21.4%
% Aromatic Carbon	@ 117 - 150 ppm	5.1%	ND	6.0%	7.1%	ND

FIG. 9

Description		CORE 2500 Group I Bright Stock	Example 1	Example 2	Example 3	Example 4
Absorptivity at 226 nm	L/gcm	11.240	15.730	13.910	19.190	12.420
Absorptivity at 254 nm	L/gcm	4.364	3.497	3.112	7.178	3.668
Absorptivity at 275 nm	L/gcm	3.454	3.209	2.883	6.146	3.159
Absorptivity at 302 nm	L/gcm	1.413	1.117	1.089	2.983	1.350
Absorptivity at 310 nm	L/gcm	1.001	0.824	0.844	2.528	1.104
Absorptivity at 325 nm	L/gcm	0.522	0.422	0.468	1.769	0.676
Absorptivity at 339 nm	L/gcm	0.305	0.255	0.295	1.273	0.441
Absorptivity at 400 nm	L/gcm	0.015	0.027	0.034	0.274	0.061
Ratio of PNA's to Total, Ratio of adsorptivity at 302 nm to 226 nm		0.13	0.07	0.08	0.16	0.11

FIG. 10

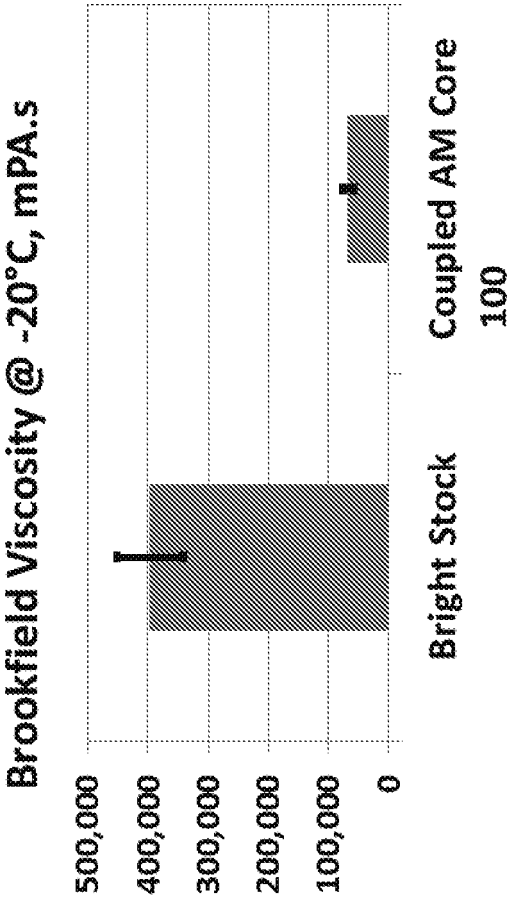


FIG. 11

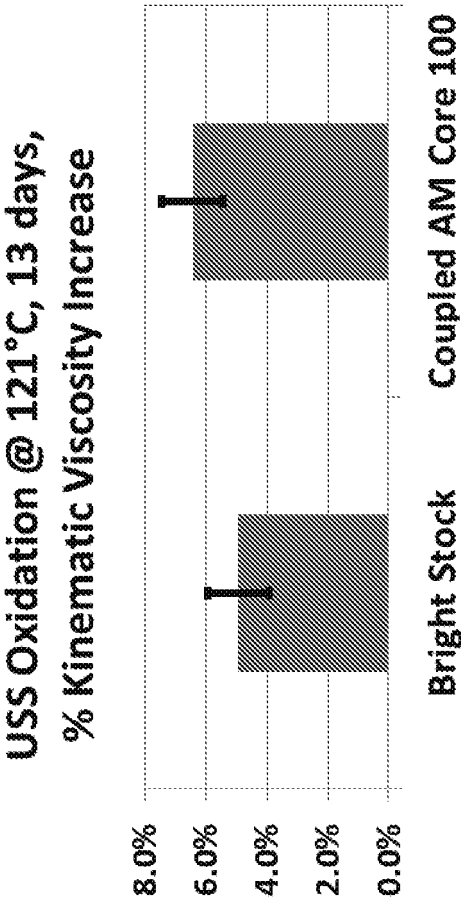


FIG. 12

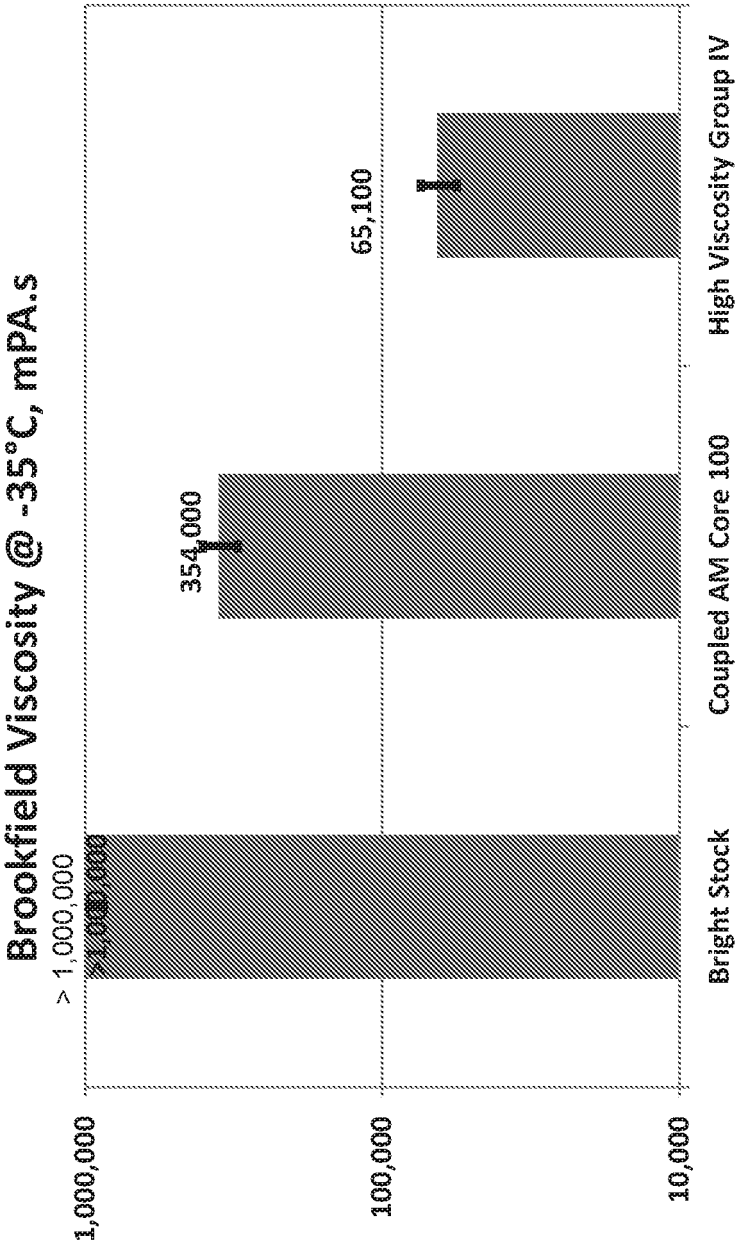


FIG. 13

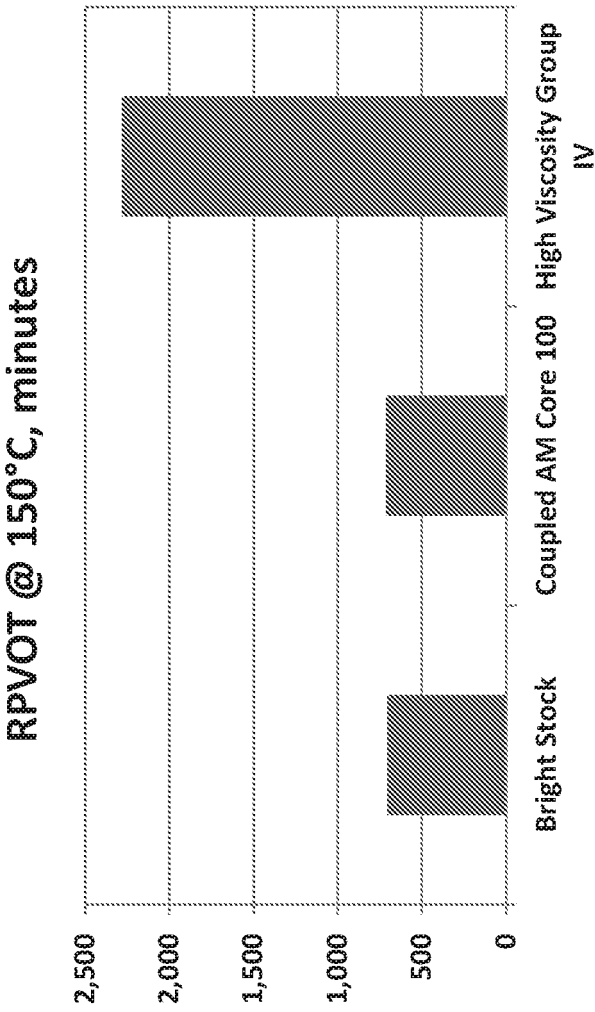


FIG. 14