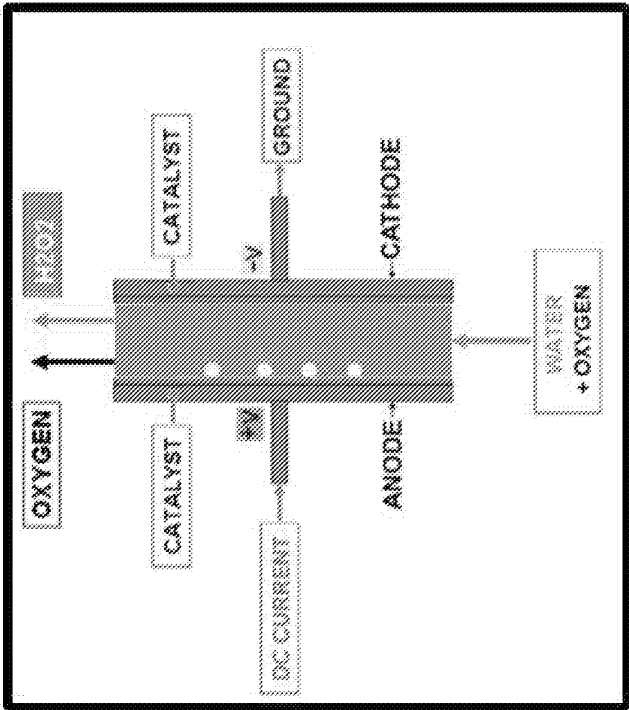




Reaction Condition 1:



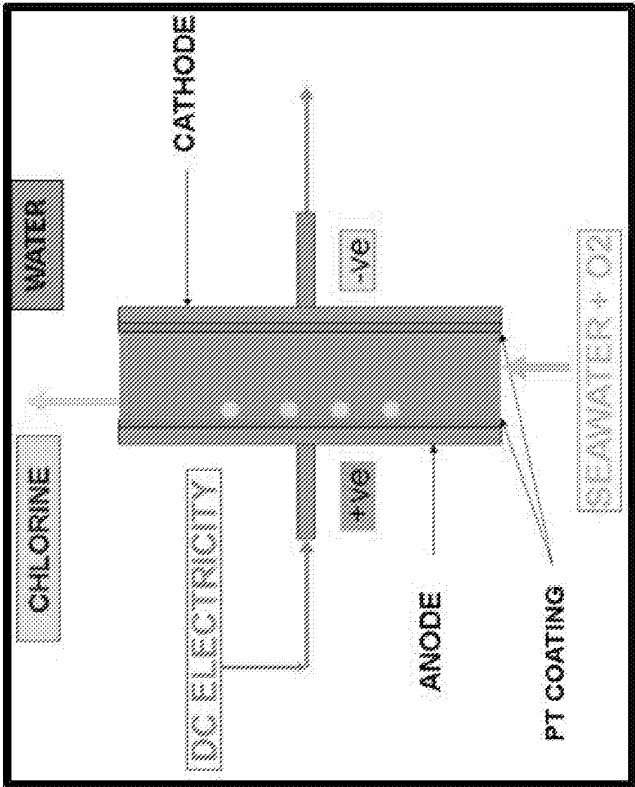
$$E_{\text{ox}}^0 = -1.23\text{V (Oxygen Generation)}$$

$$E_{\text{red}}^0 = +0.682\text{V (Oxygen Consumption)}$$

$$E_{\text{cell}}^0 = -.548\text{V}$$

Sufficient voltage for O2 generation, sufficient O2 for H2O2 generation

FIG. 1A



Reaction Condition 2:



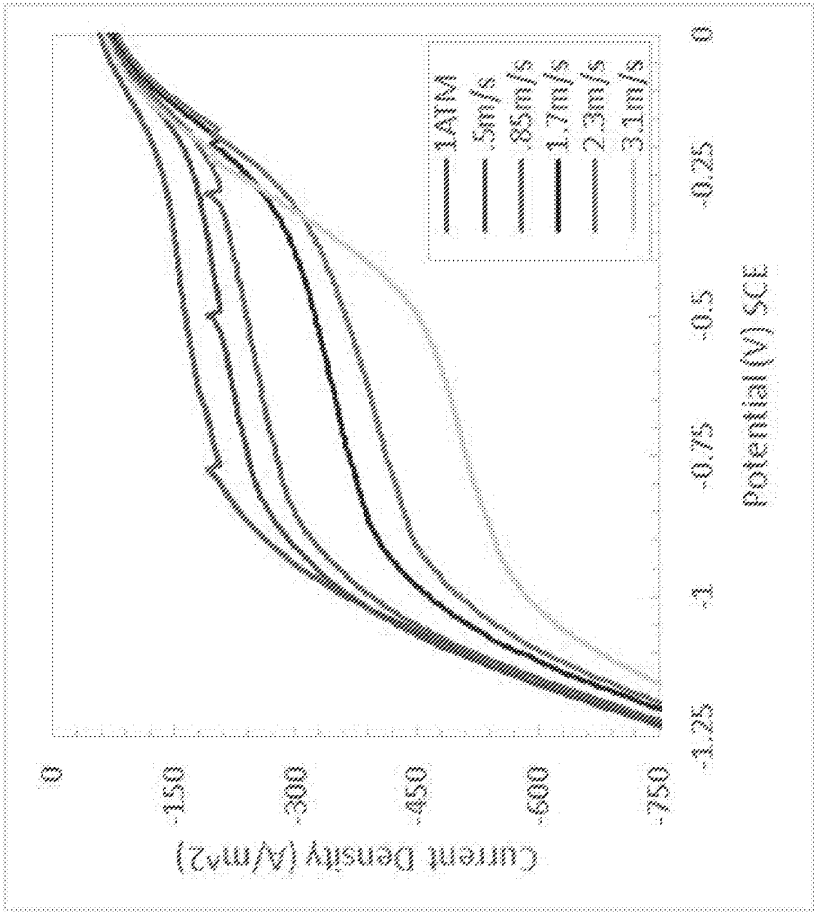
$E_{ox}^0 = -1.36\text{V}$ (Chlorine Generation)

$E_{red}^0 = +0.40\text{V}$ (Oxygen Consumption)

$E_{cell}^0 = -.96\text{V}$

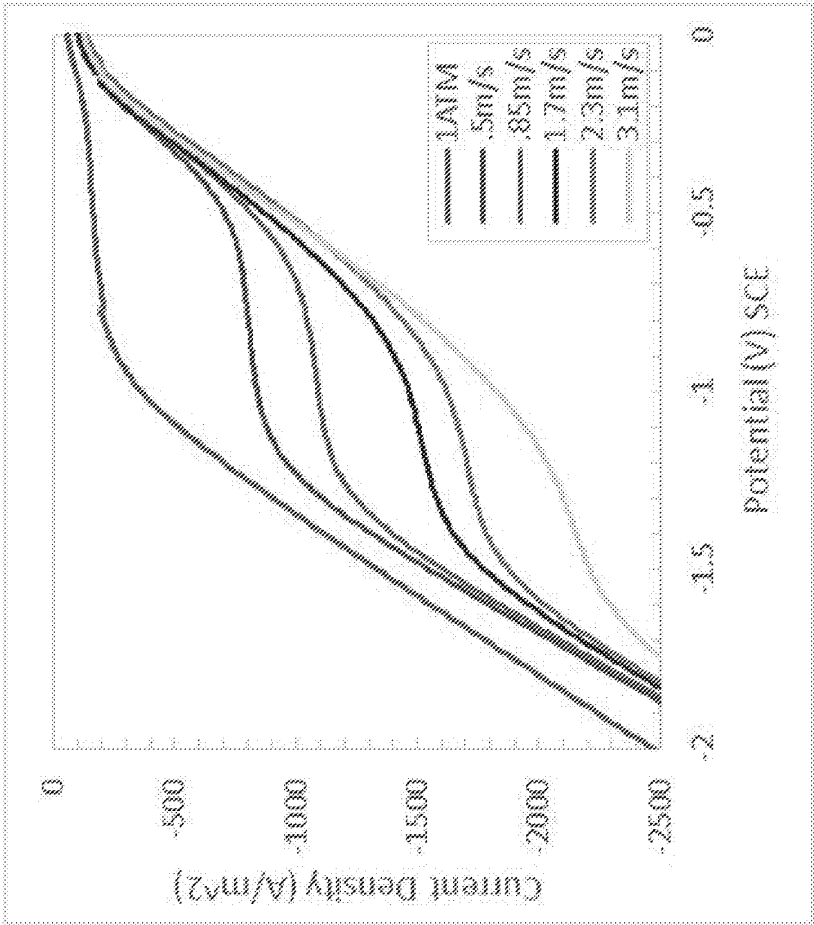
Sufficient voltage & salt for Cl2 generation, sufficient voltage & O2 for water generation

FIG. 1B



Cathodic voltammetric plot with velocity, water generation at 6.9 bar dissolved air

FIG. 2A



Cathodic voltammetric plot with velocity, water generation at 6.9bar dissolved O₂

FIG. 2B

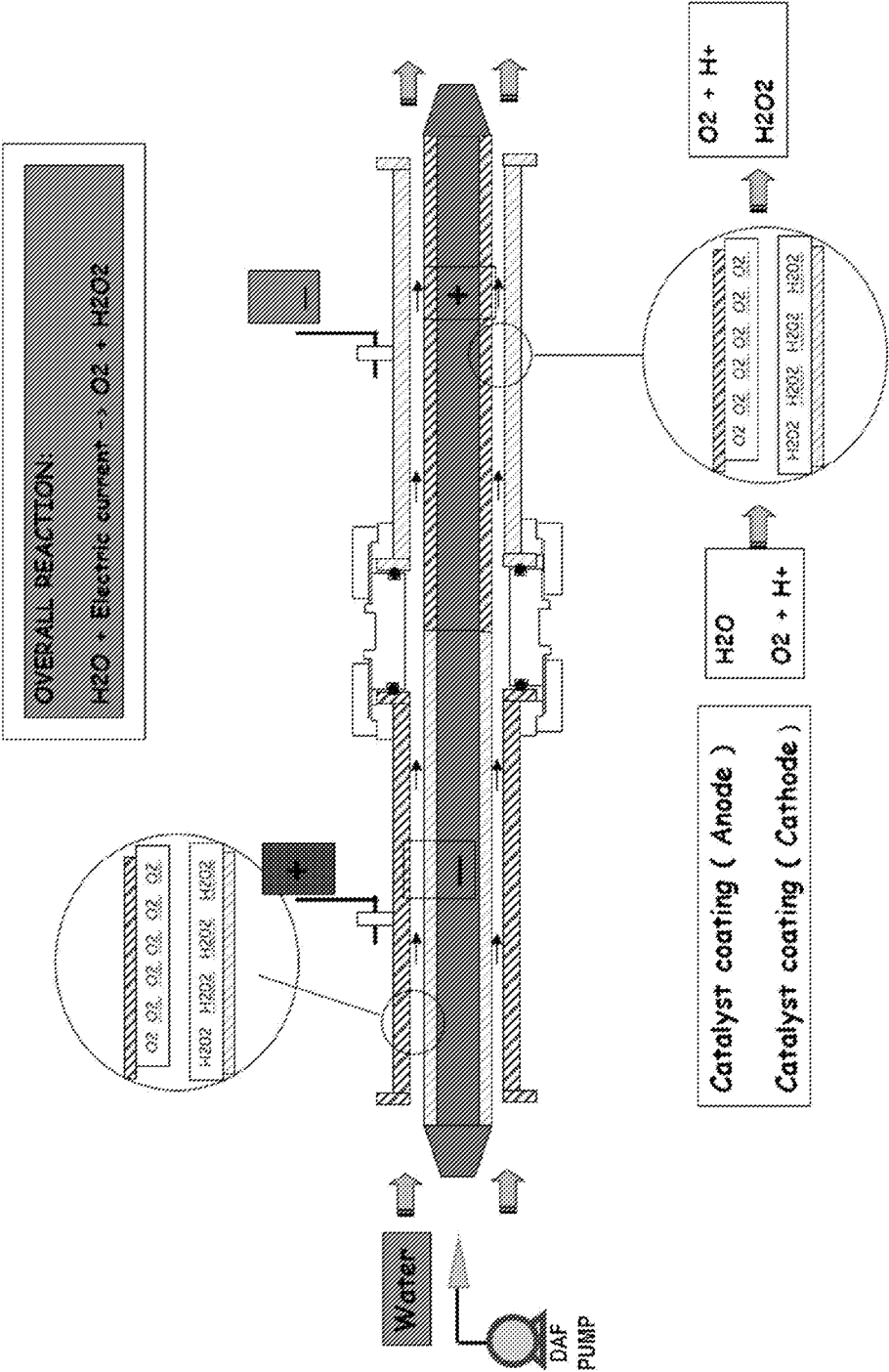
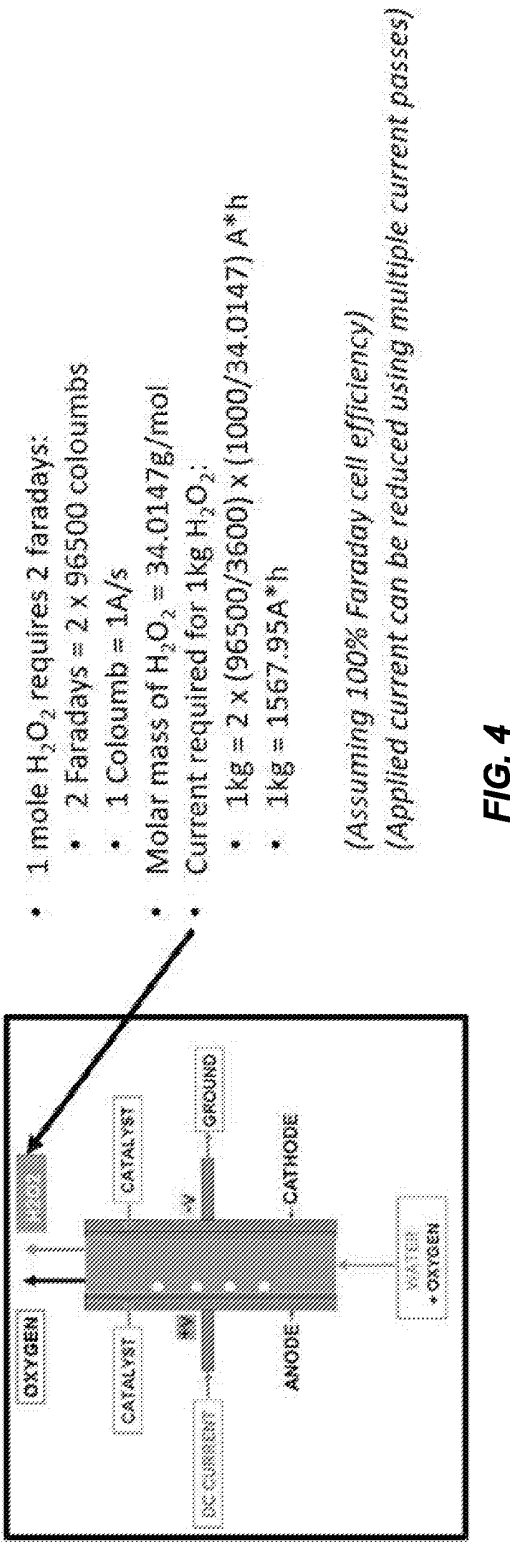


FIG. 3



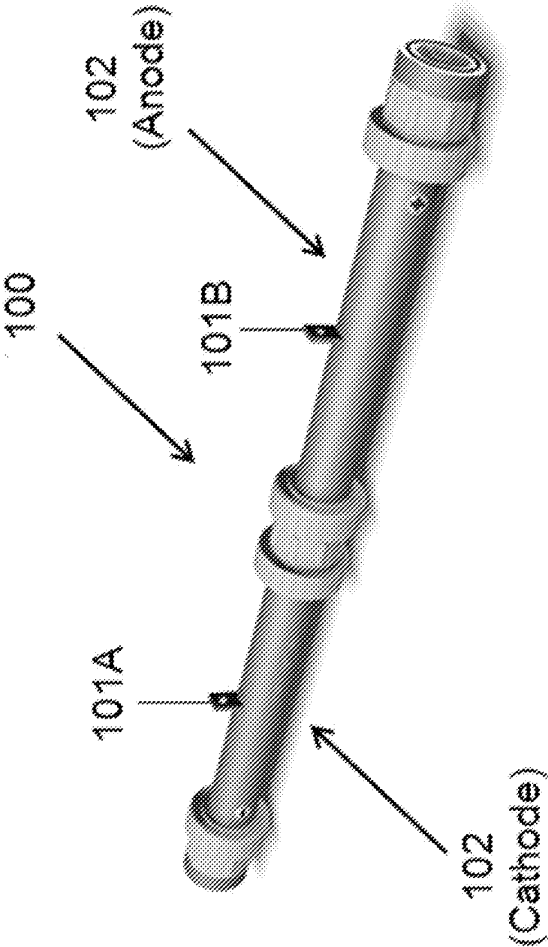


FIG. 5A

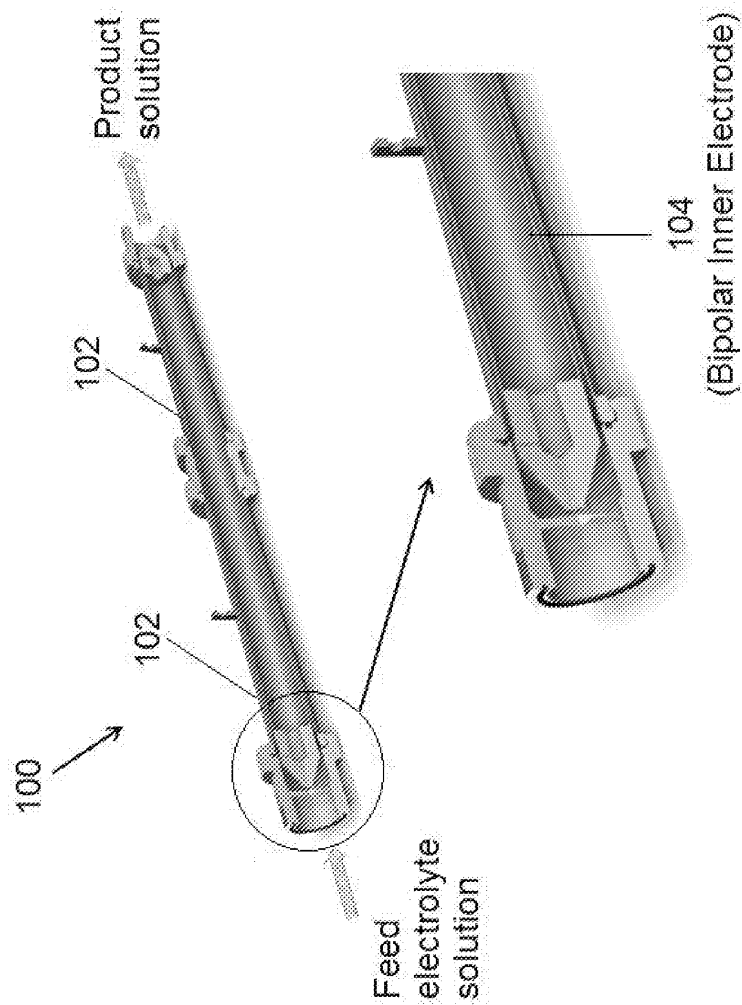


FIG. 5B

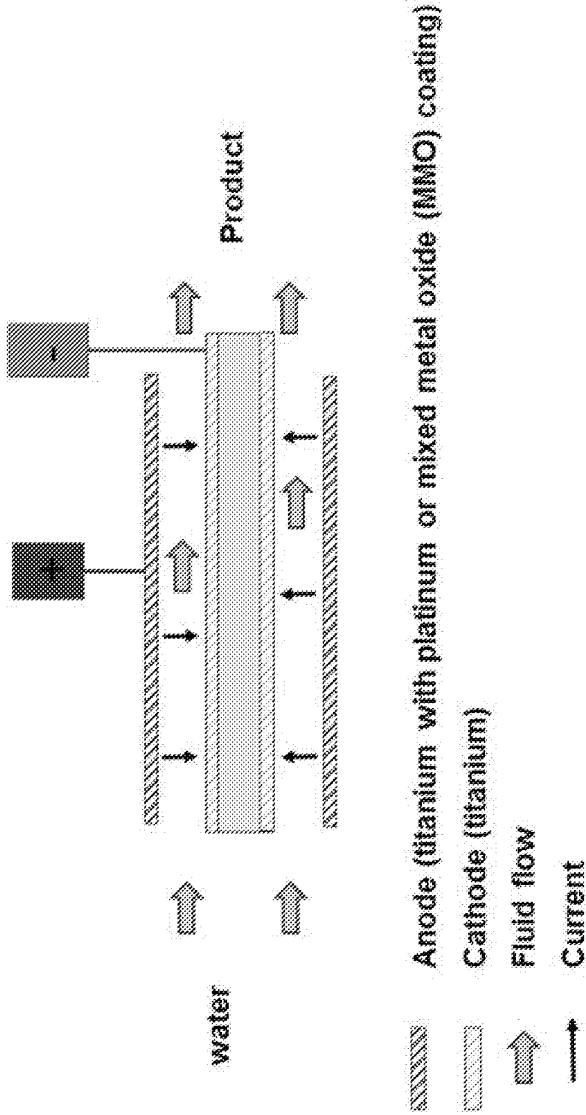


FIG. 6A

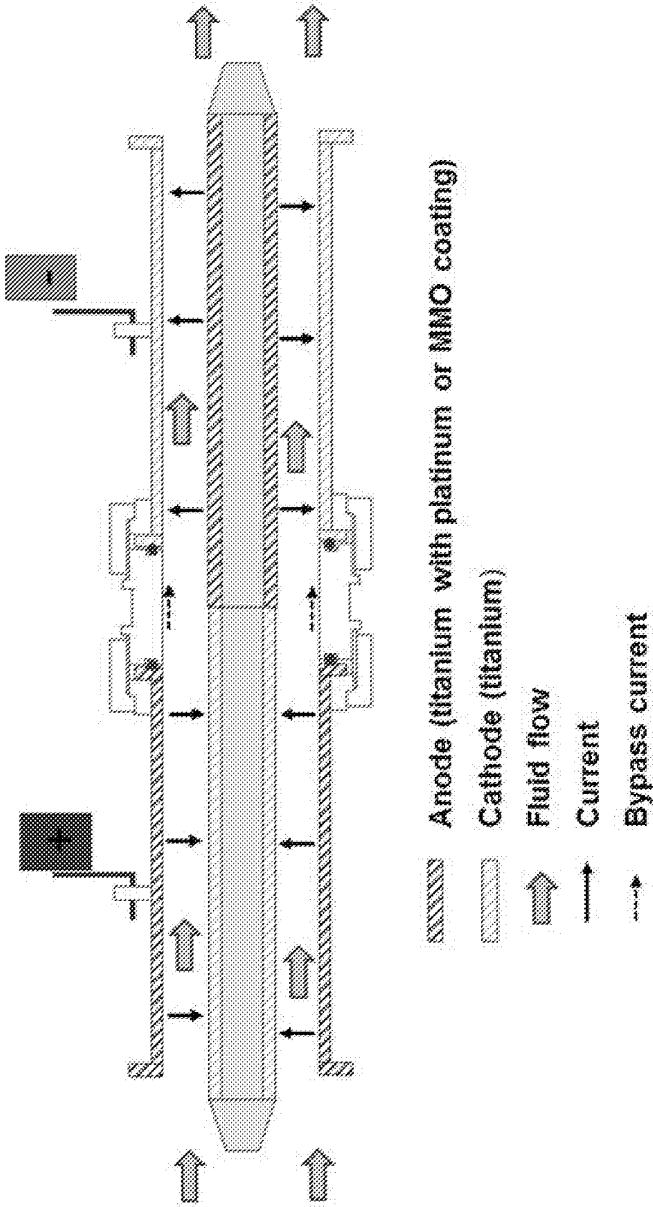


FIG. 6B

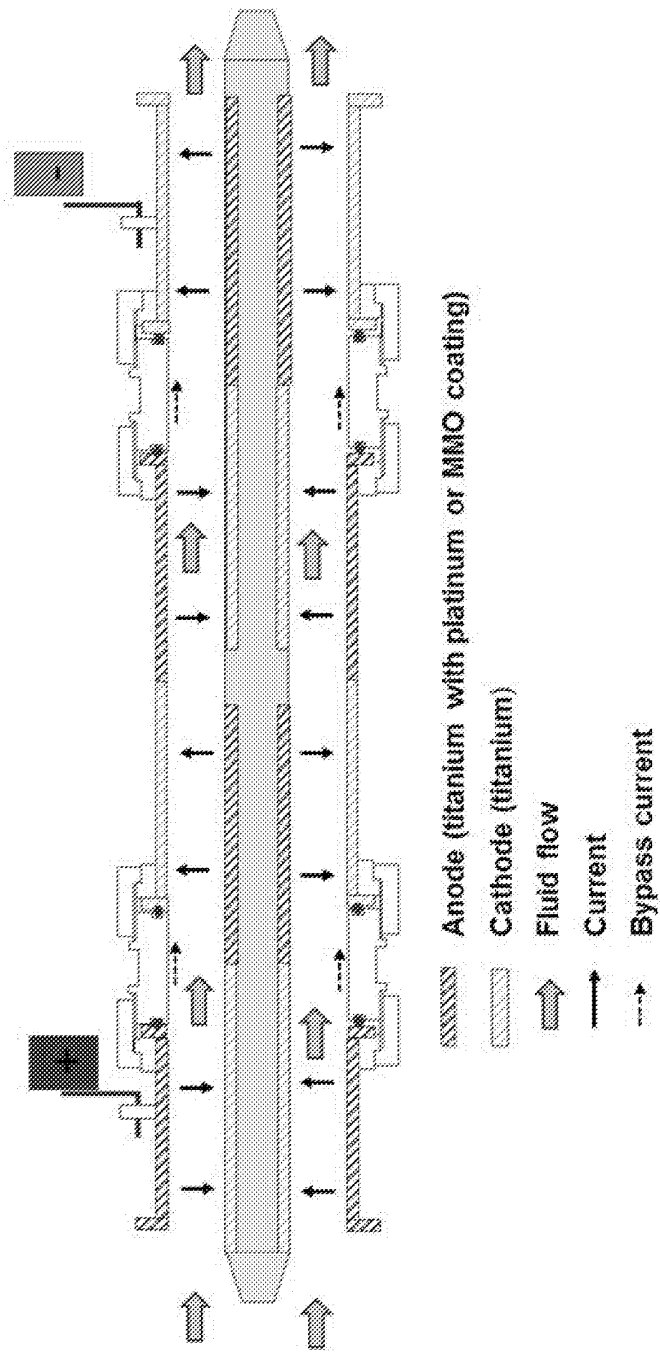


FIG. 6C

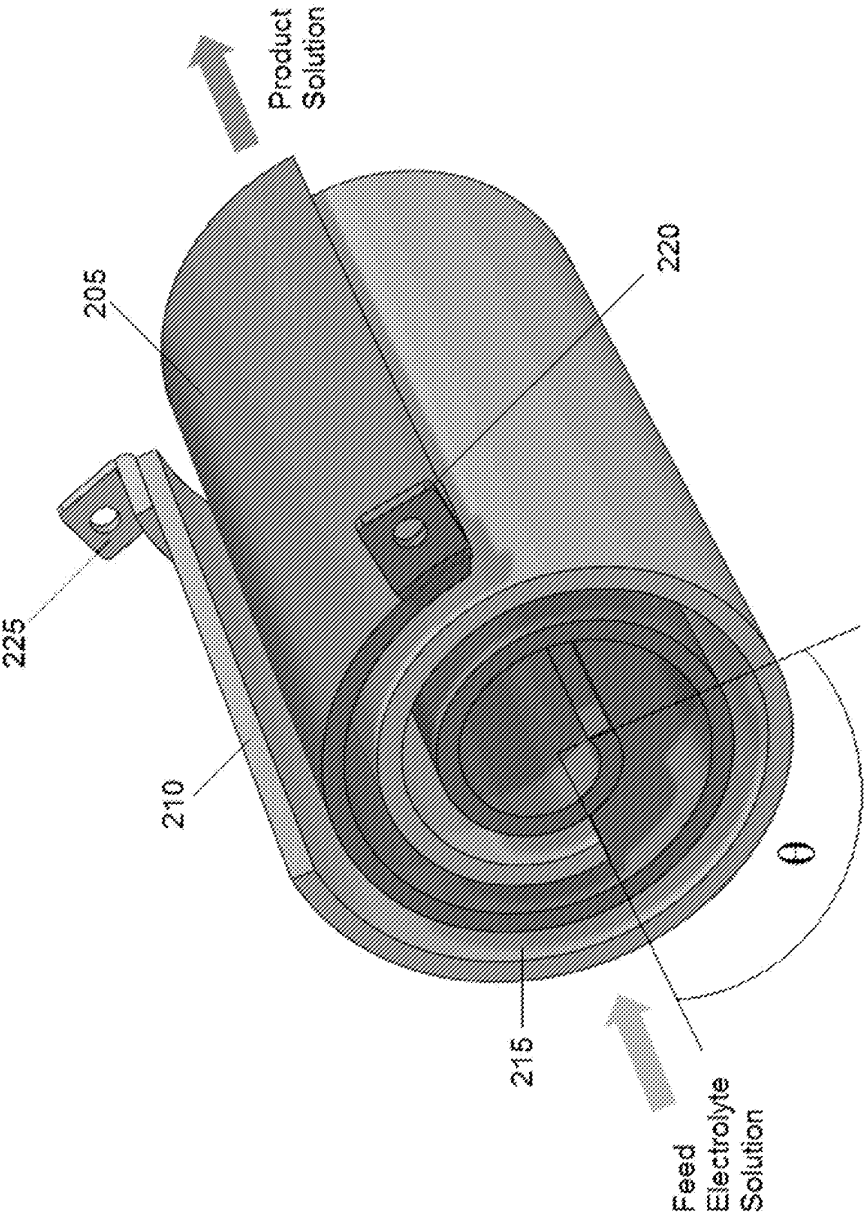


FIG. 7

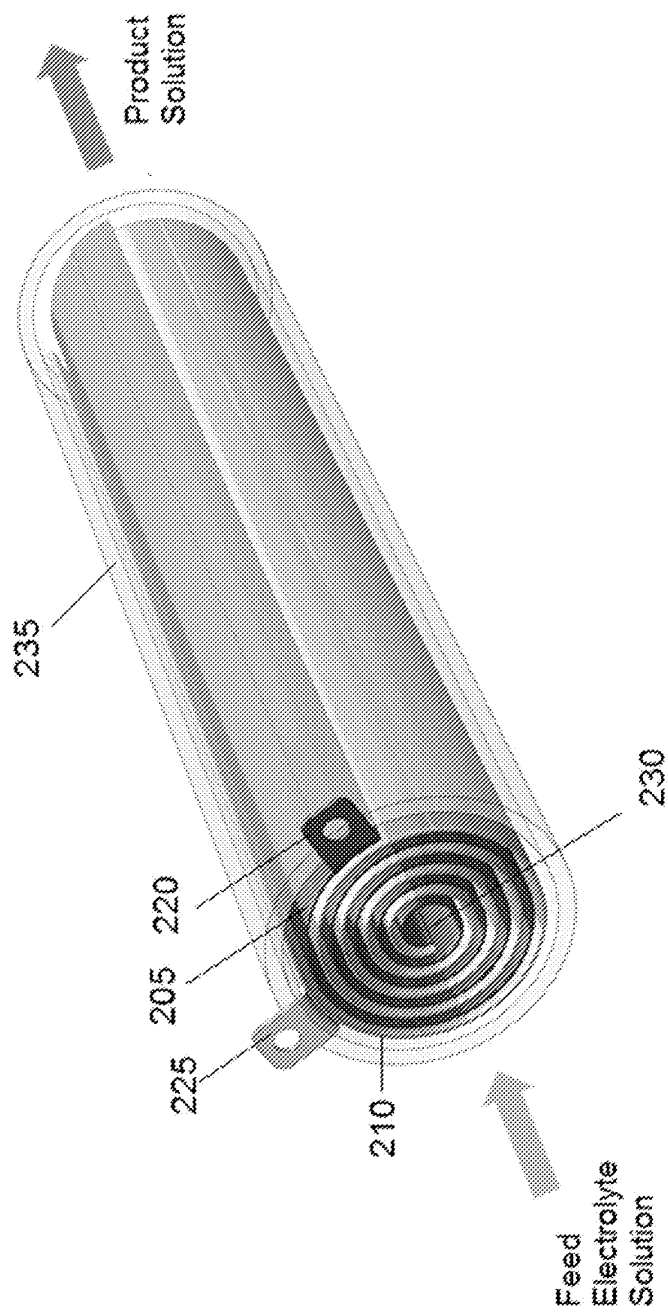


FIG. 8



FIG. 9

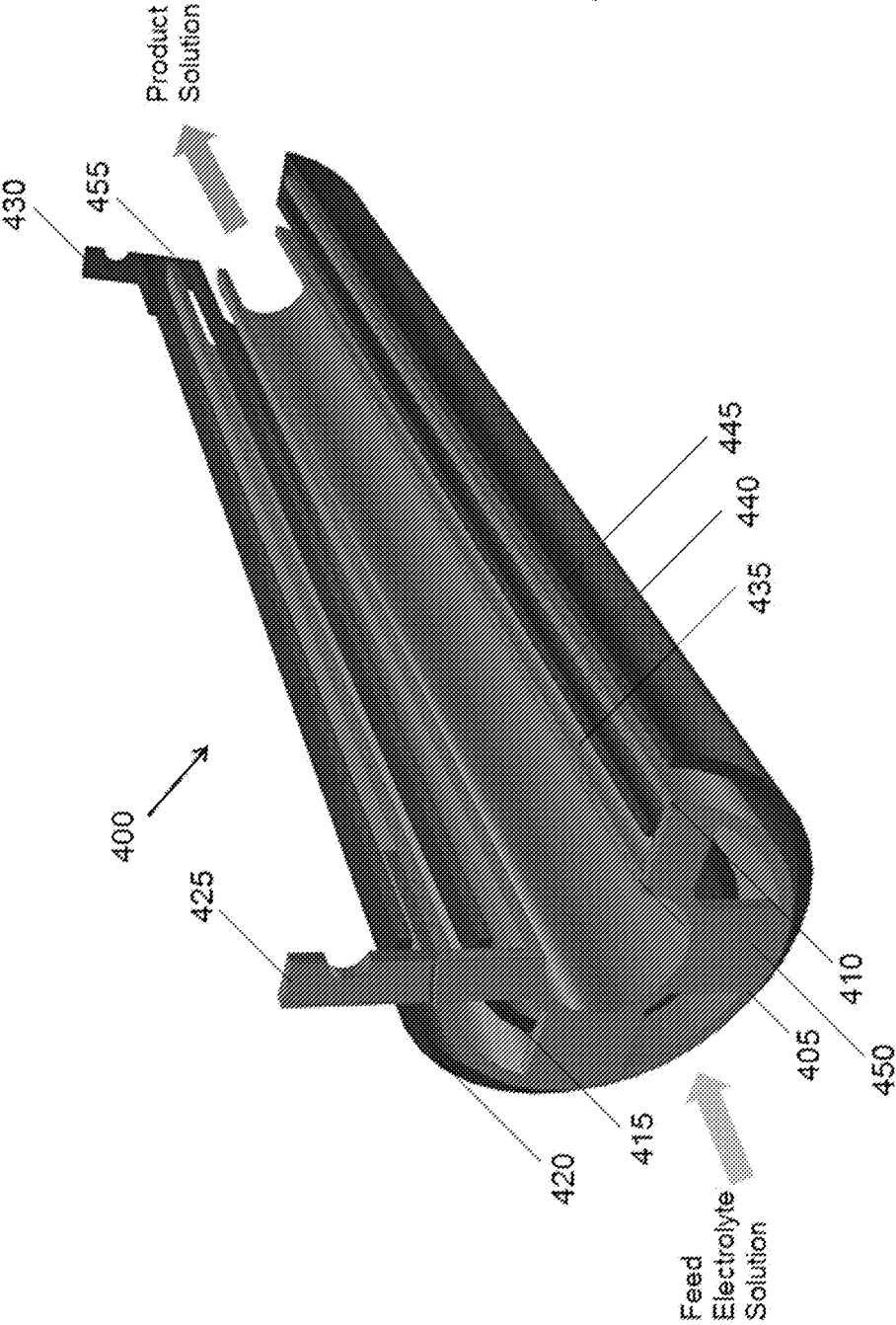


FIG. 10

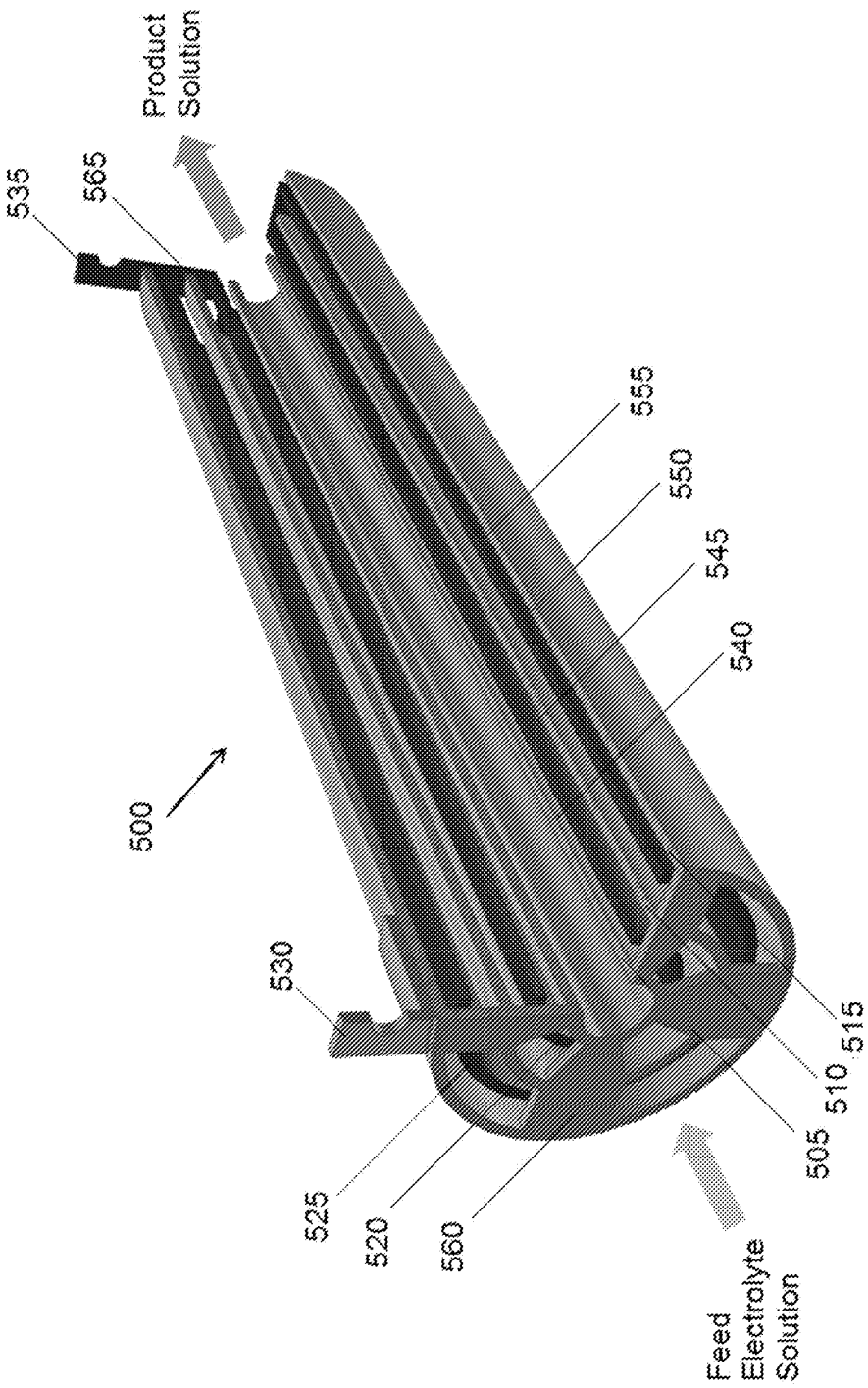


FIG. 11

Aquafine Standard Low Pressure (LP) and Amalgam Low Pressure (LP) Lamp Spectrum

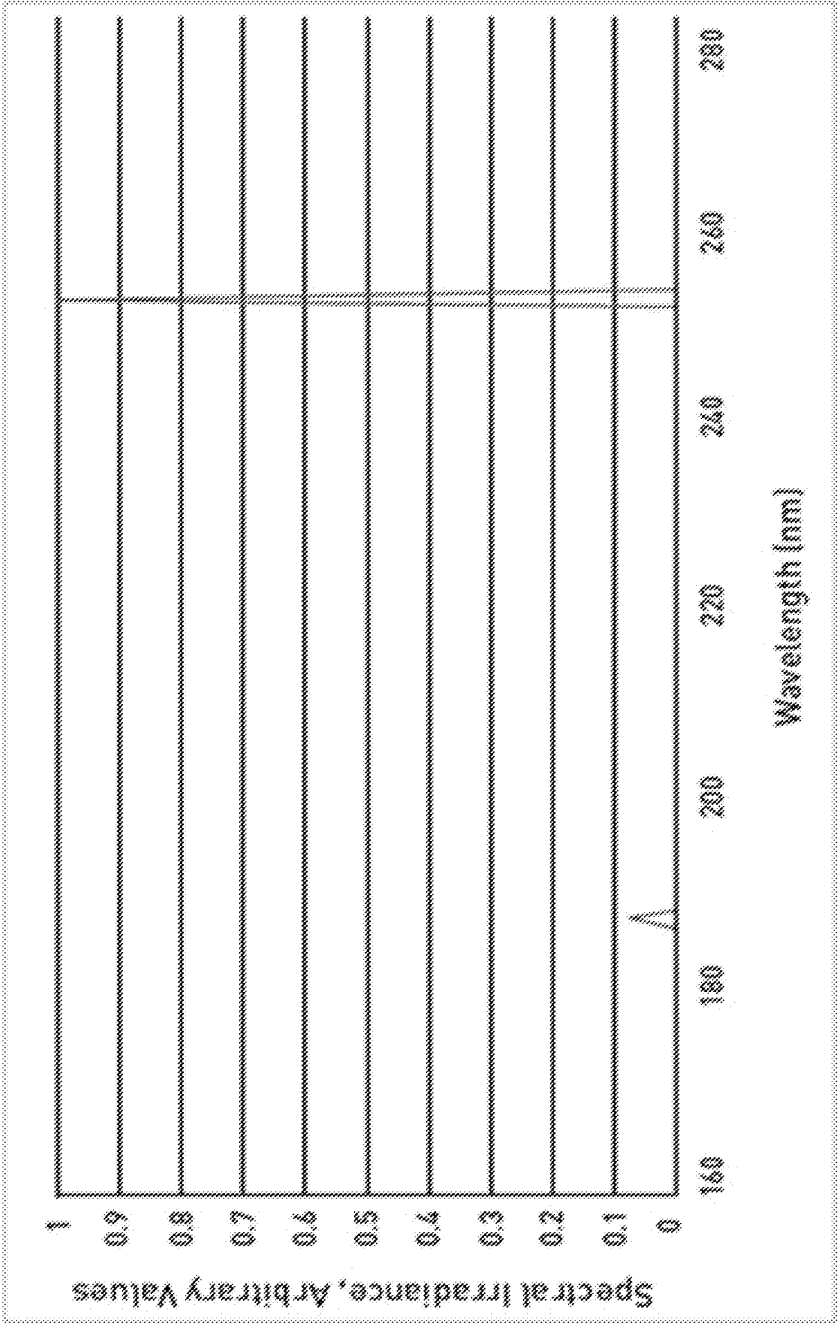


FIG. 12A

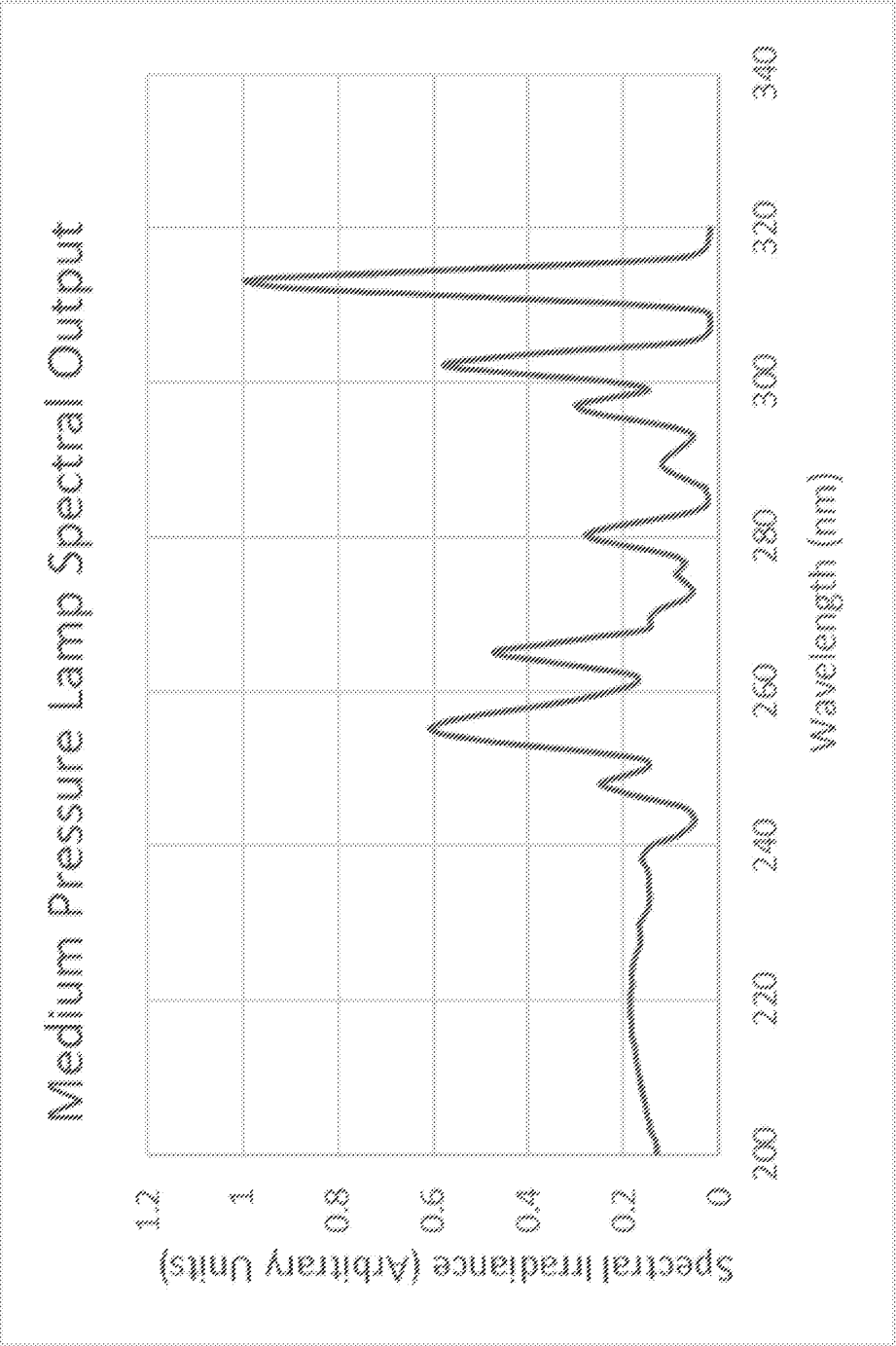


FIG. 12B

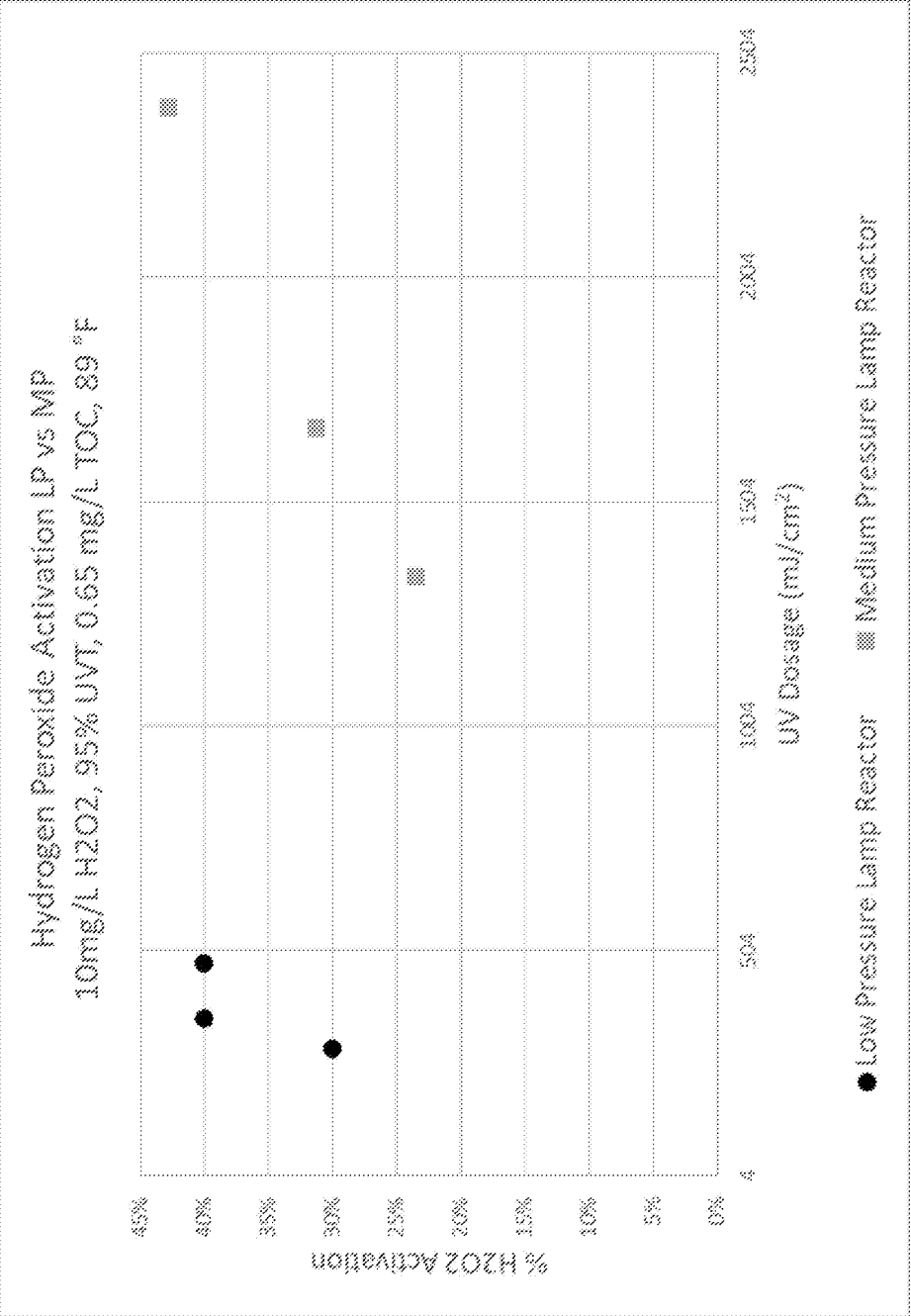


FIG. 12C

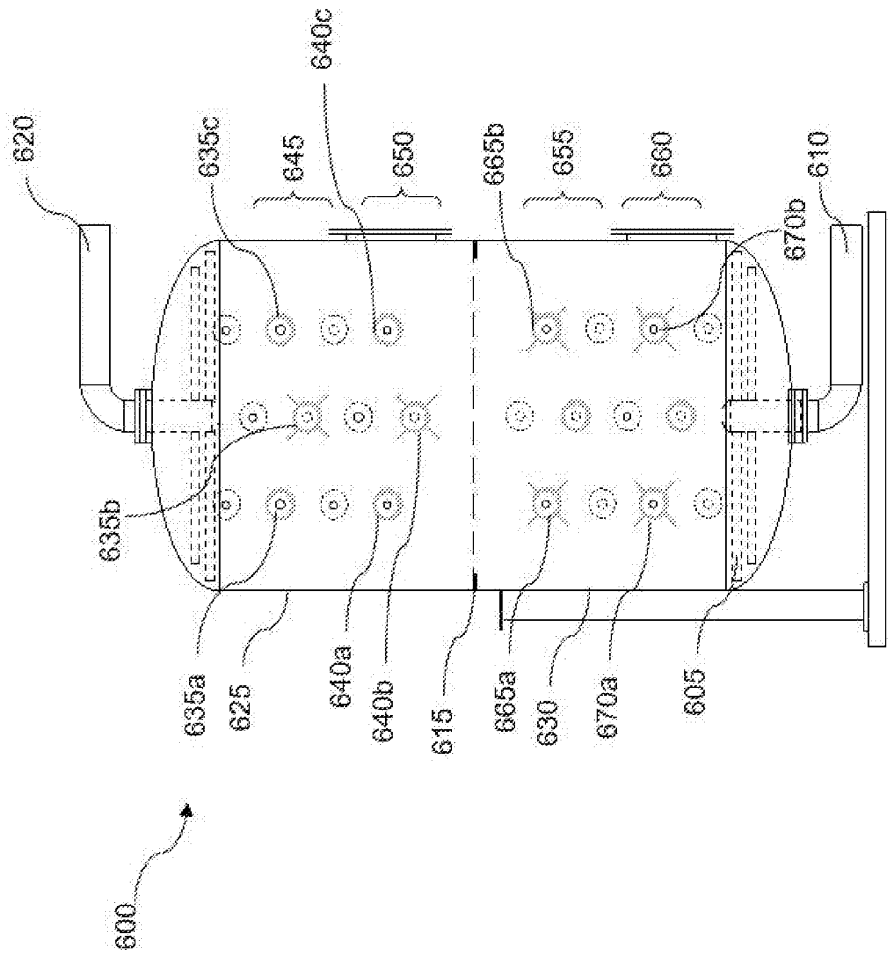


FIG. 13

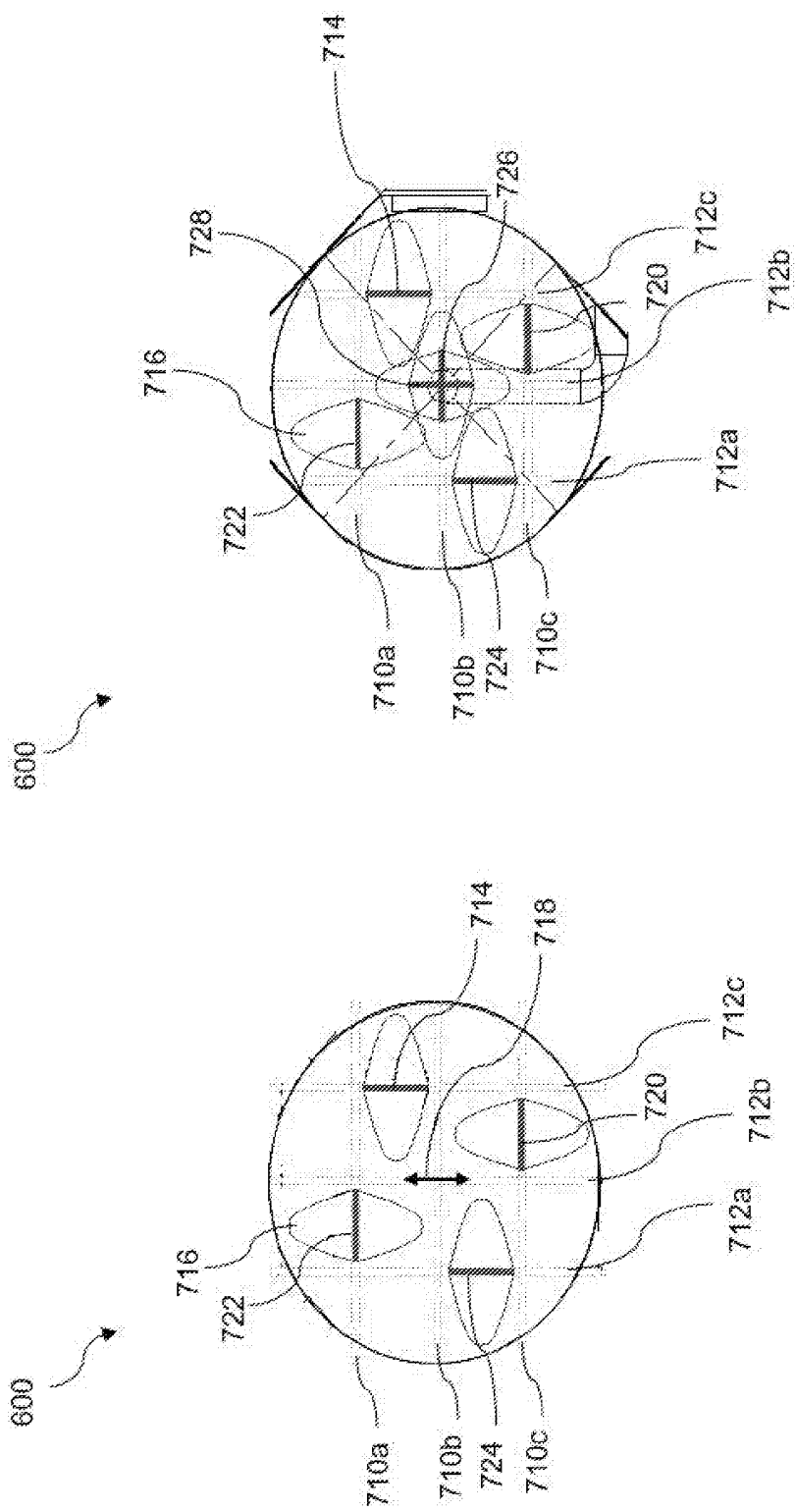


FIG. 14B

FIG. 14A

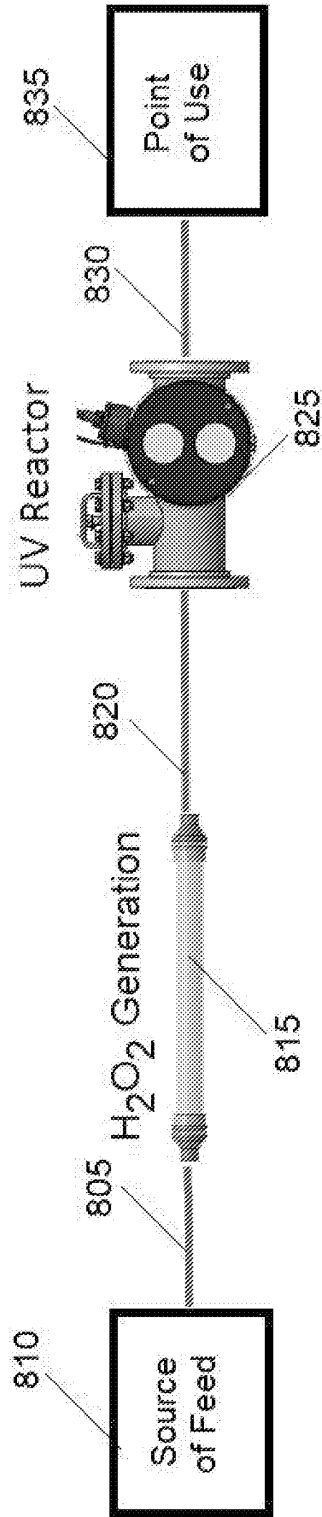


FIG. 15

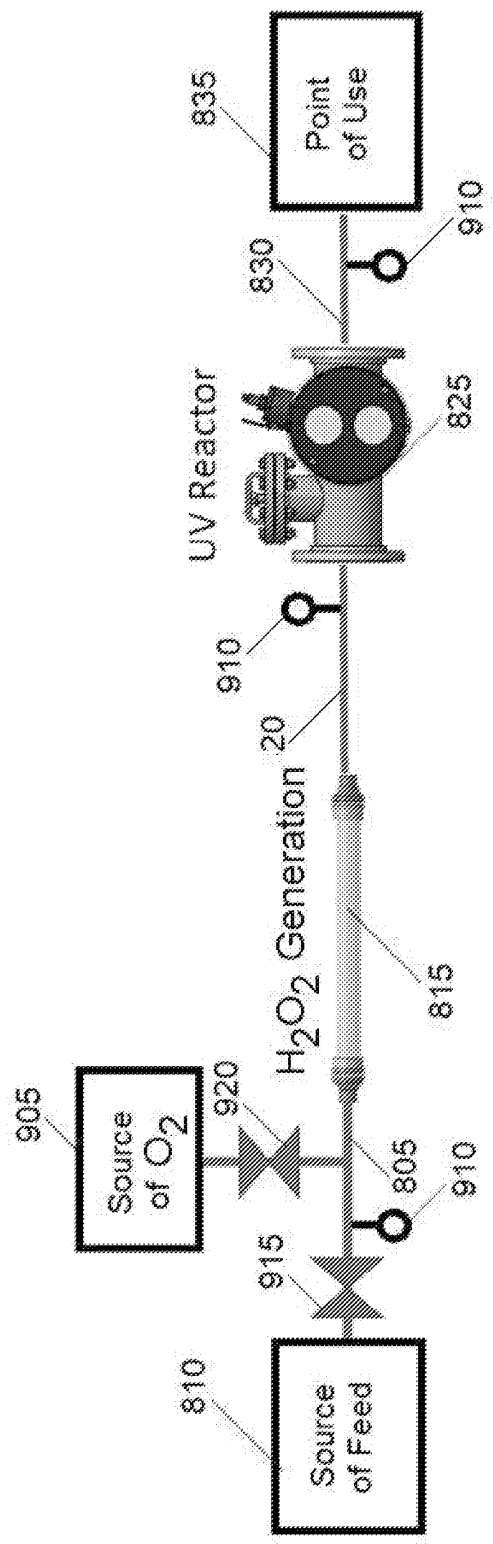


FIG. 16

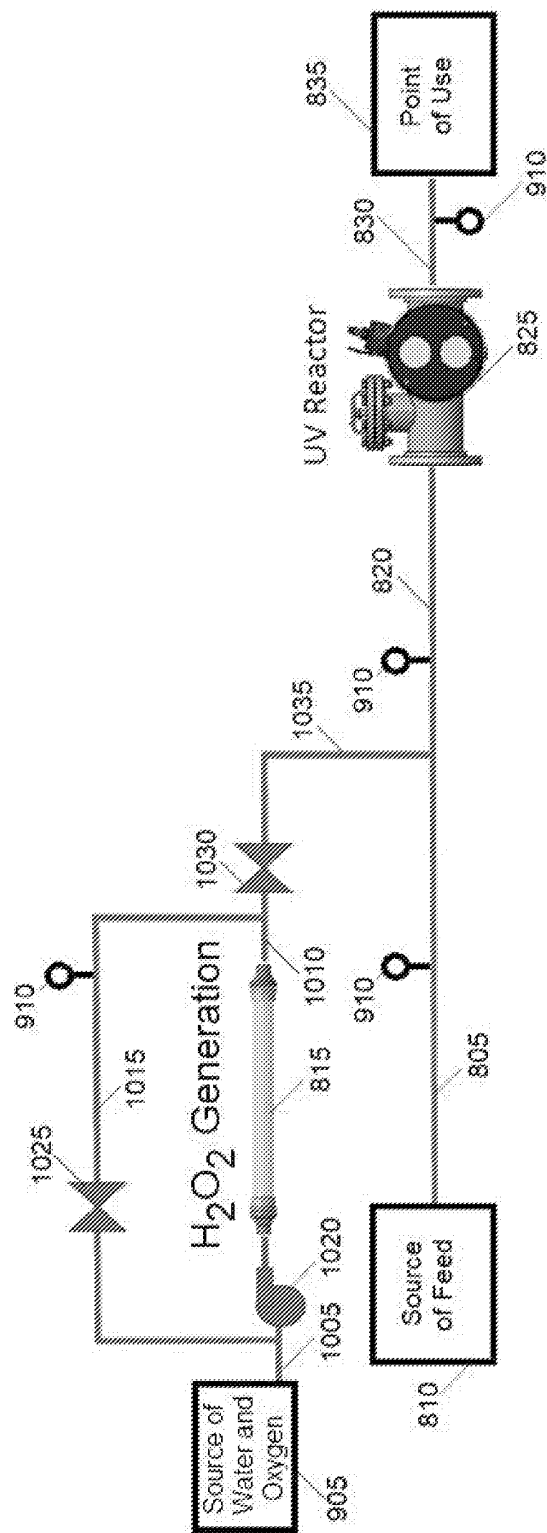


FIG. 17

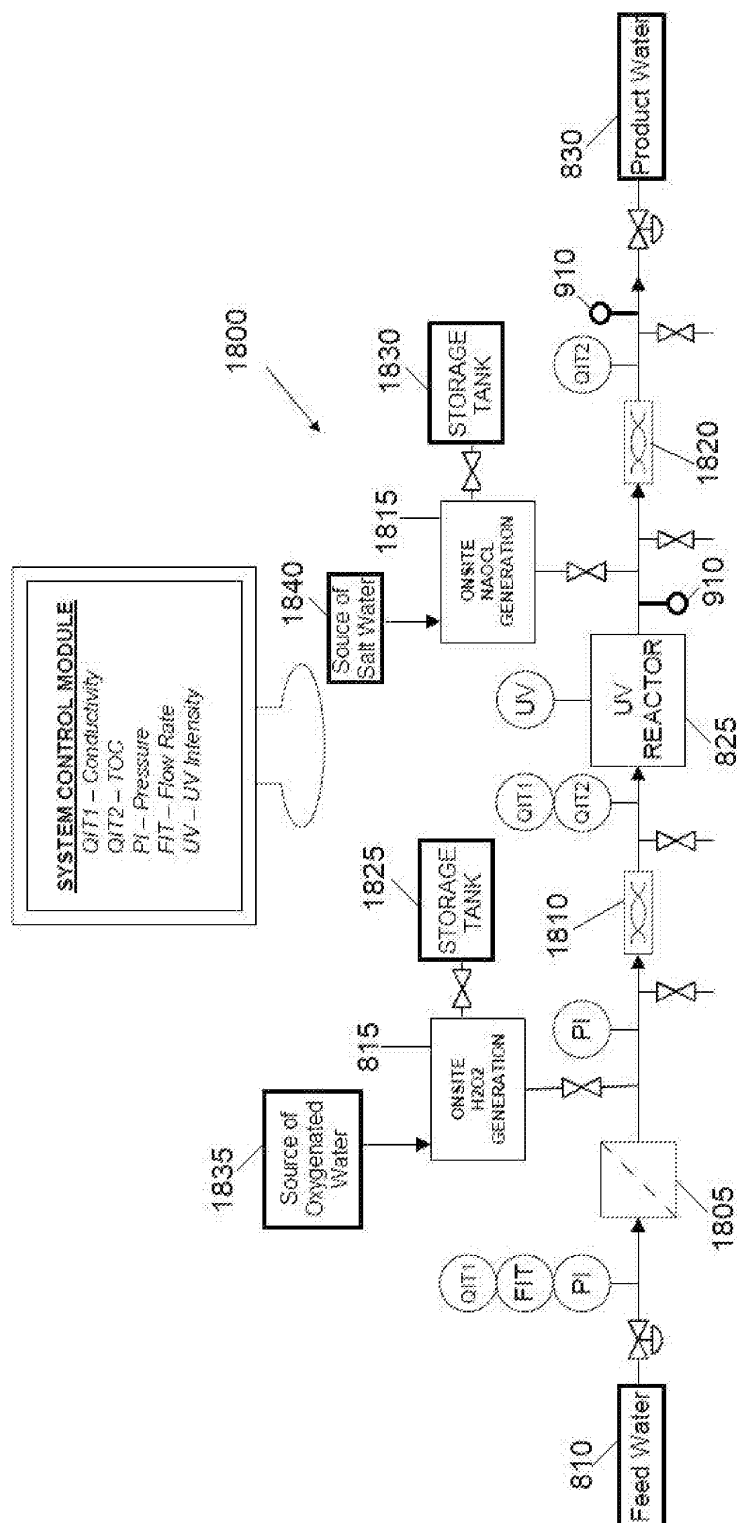


FIG. 18

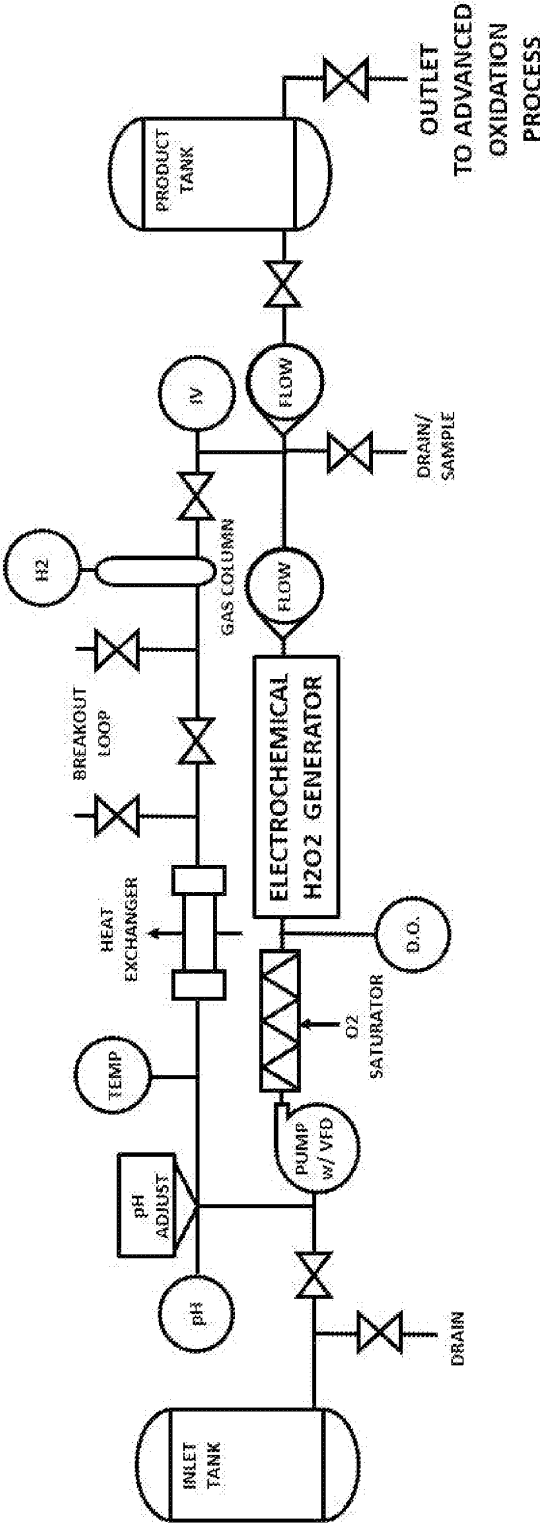


FIG. 19

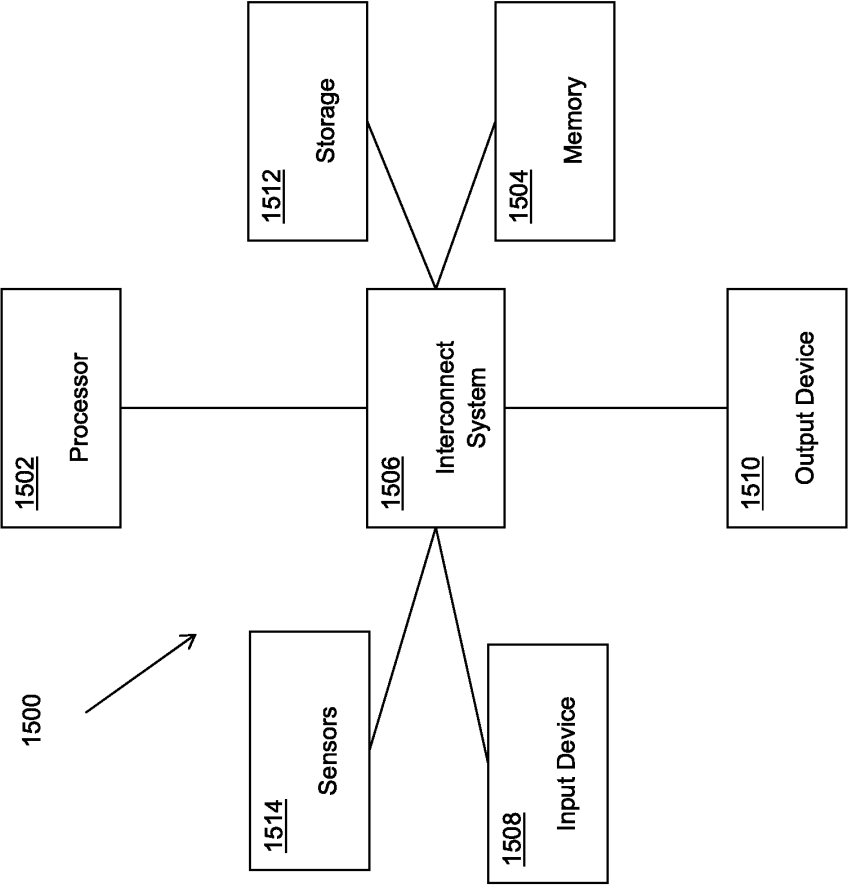


FIG. 20

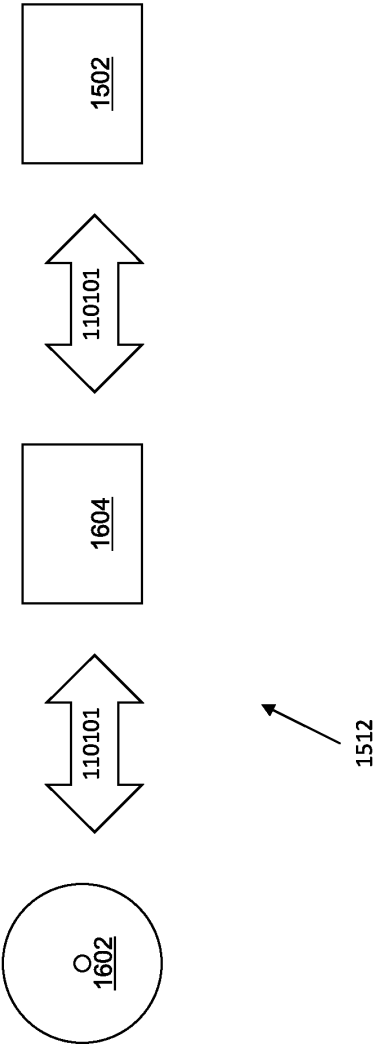


FIG. 21

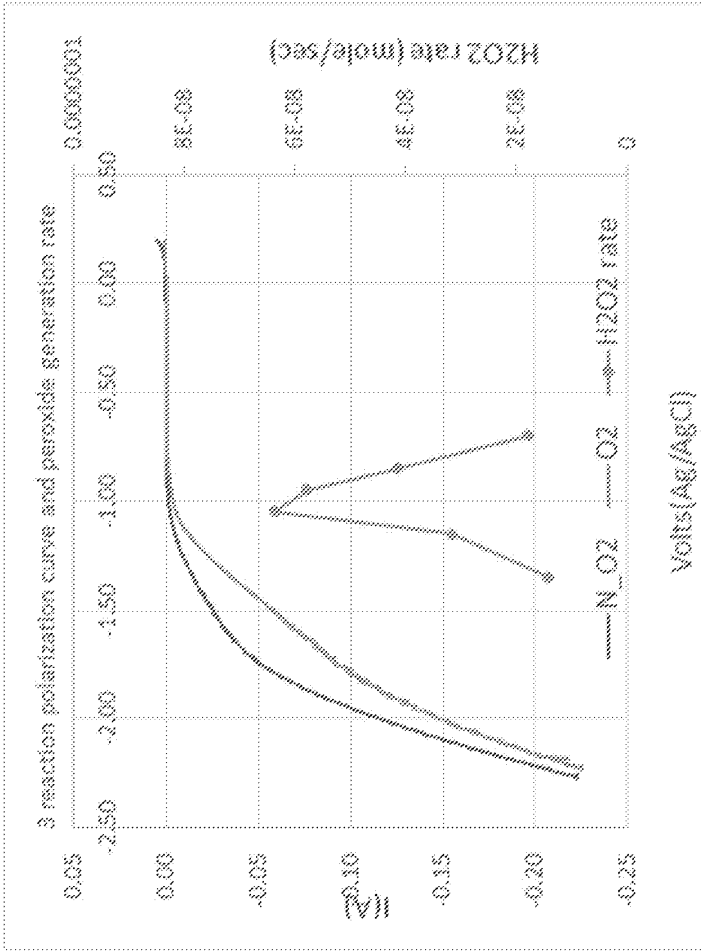


FIG. 22

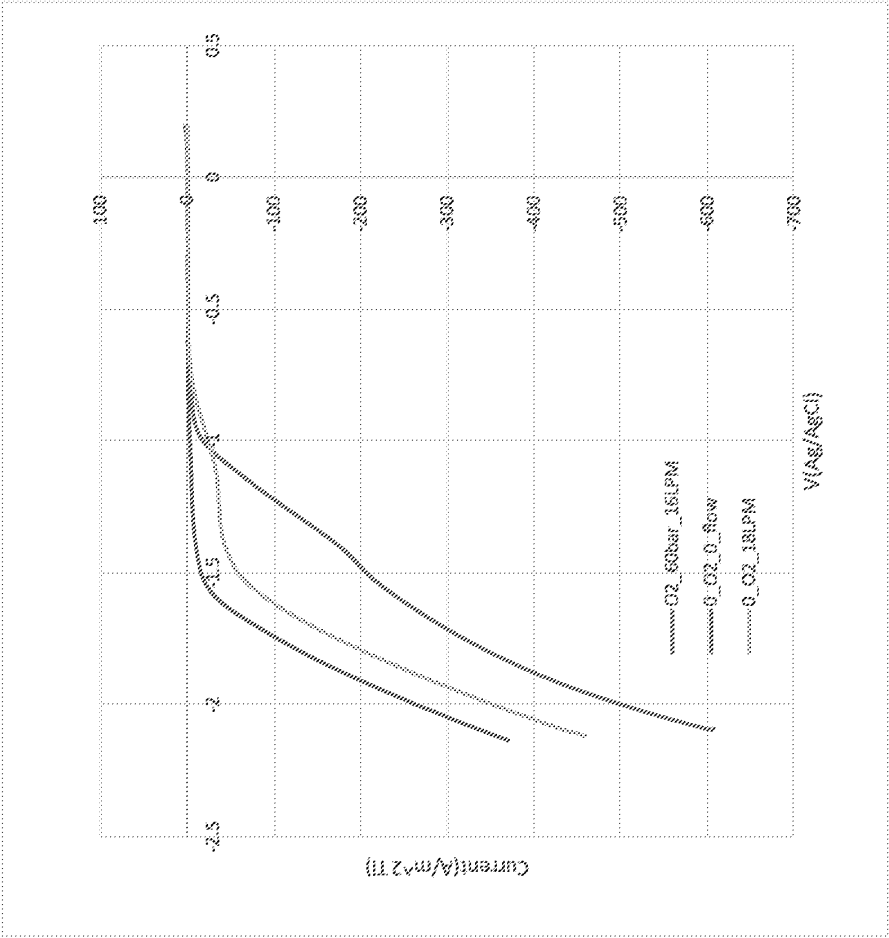


FIG. 23

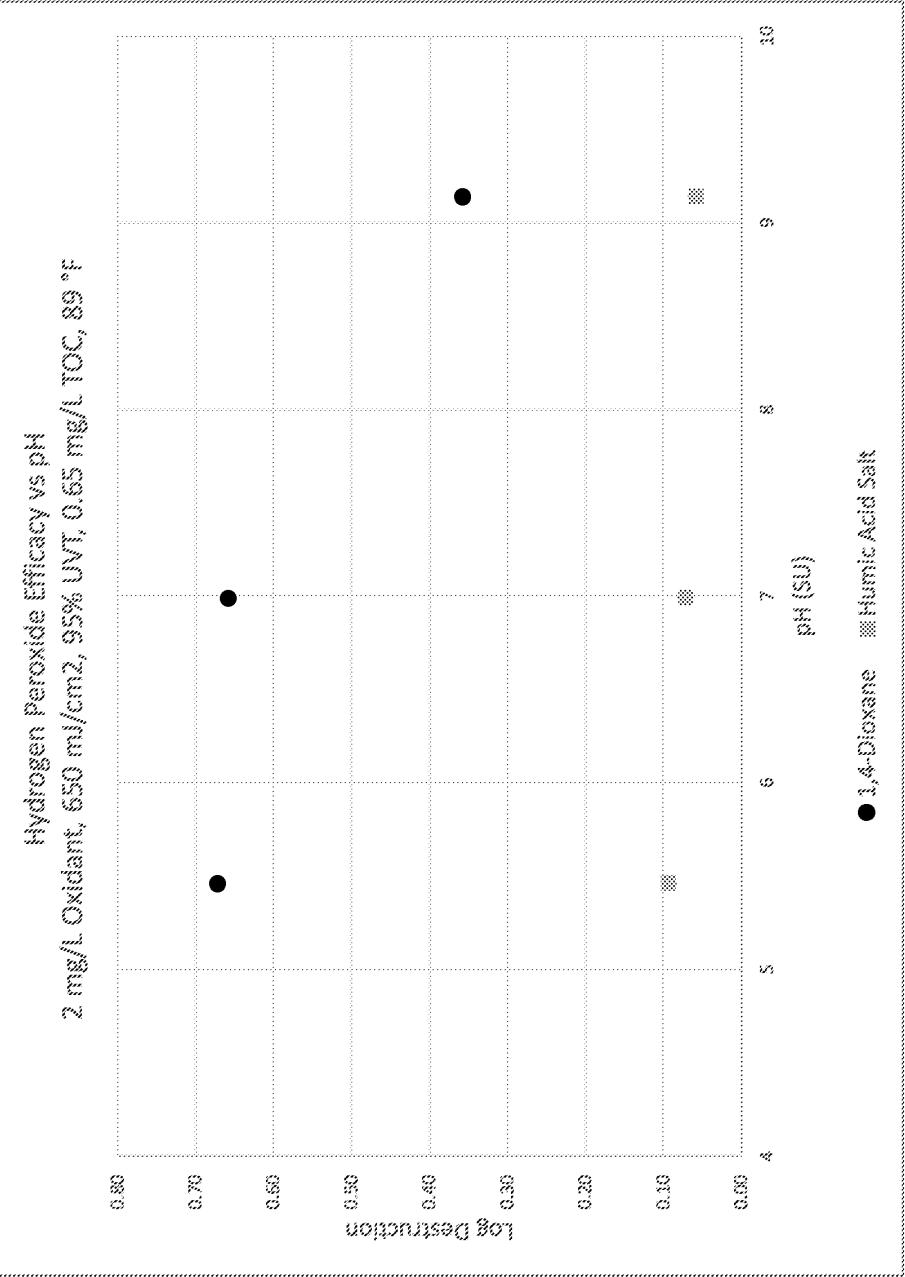


FIG. 24

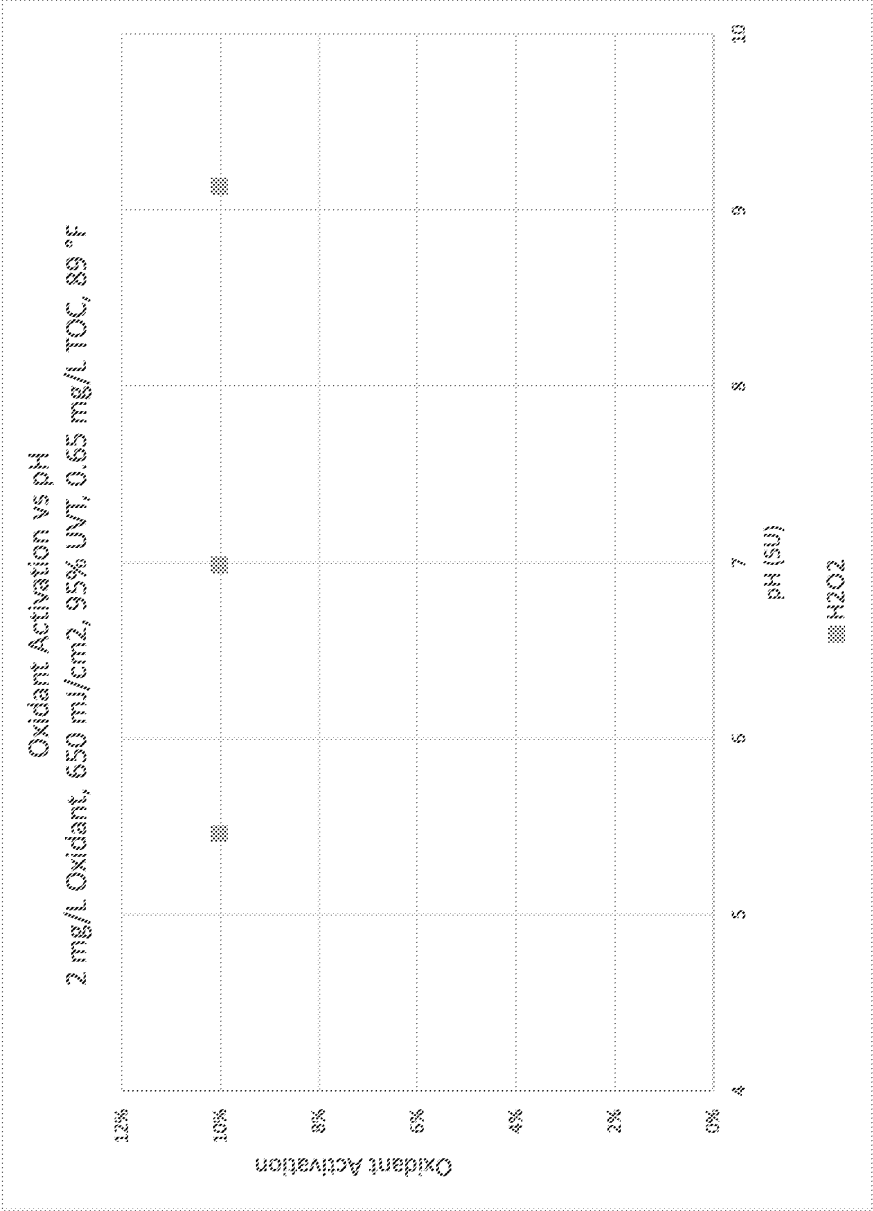


FIG. 25

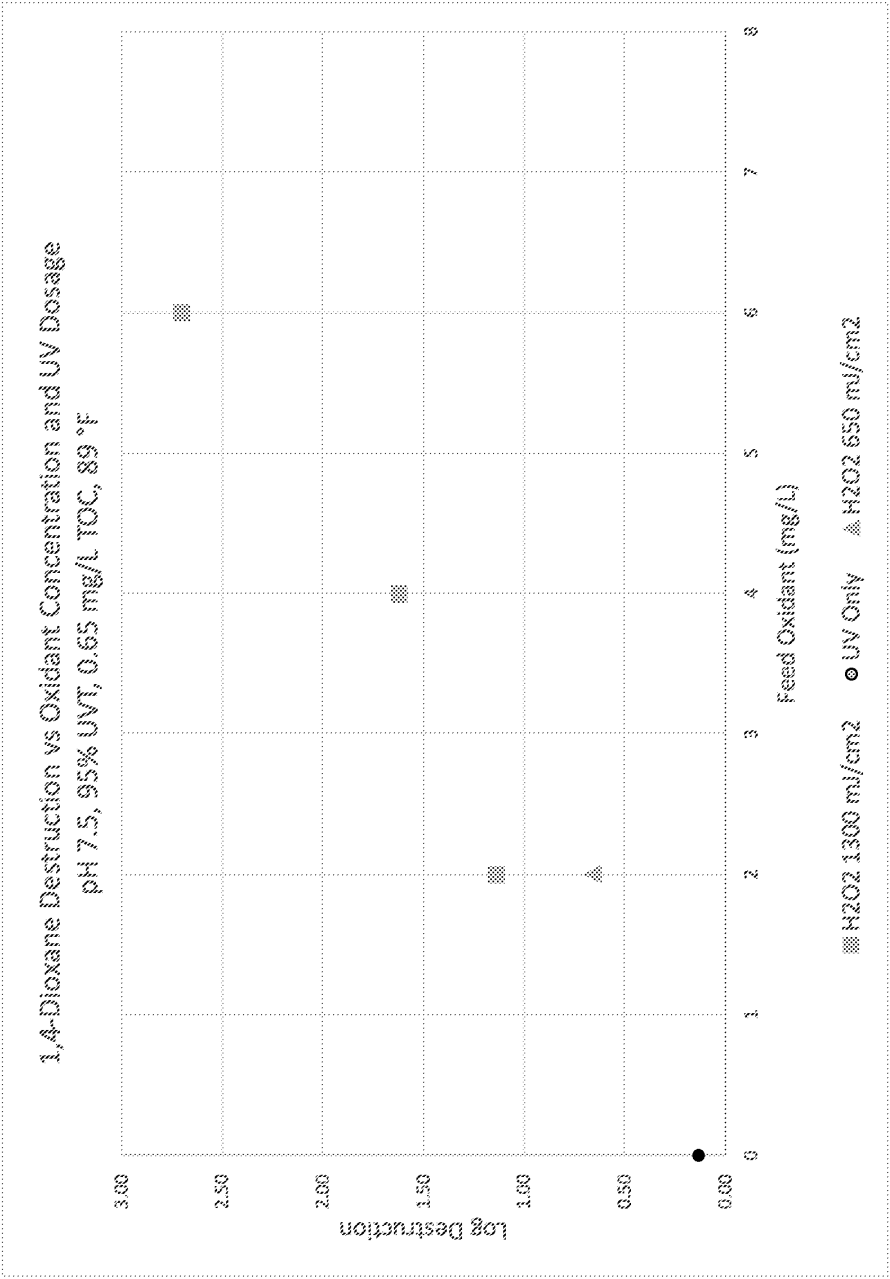


FIG. 26

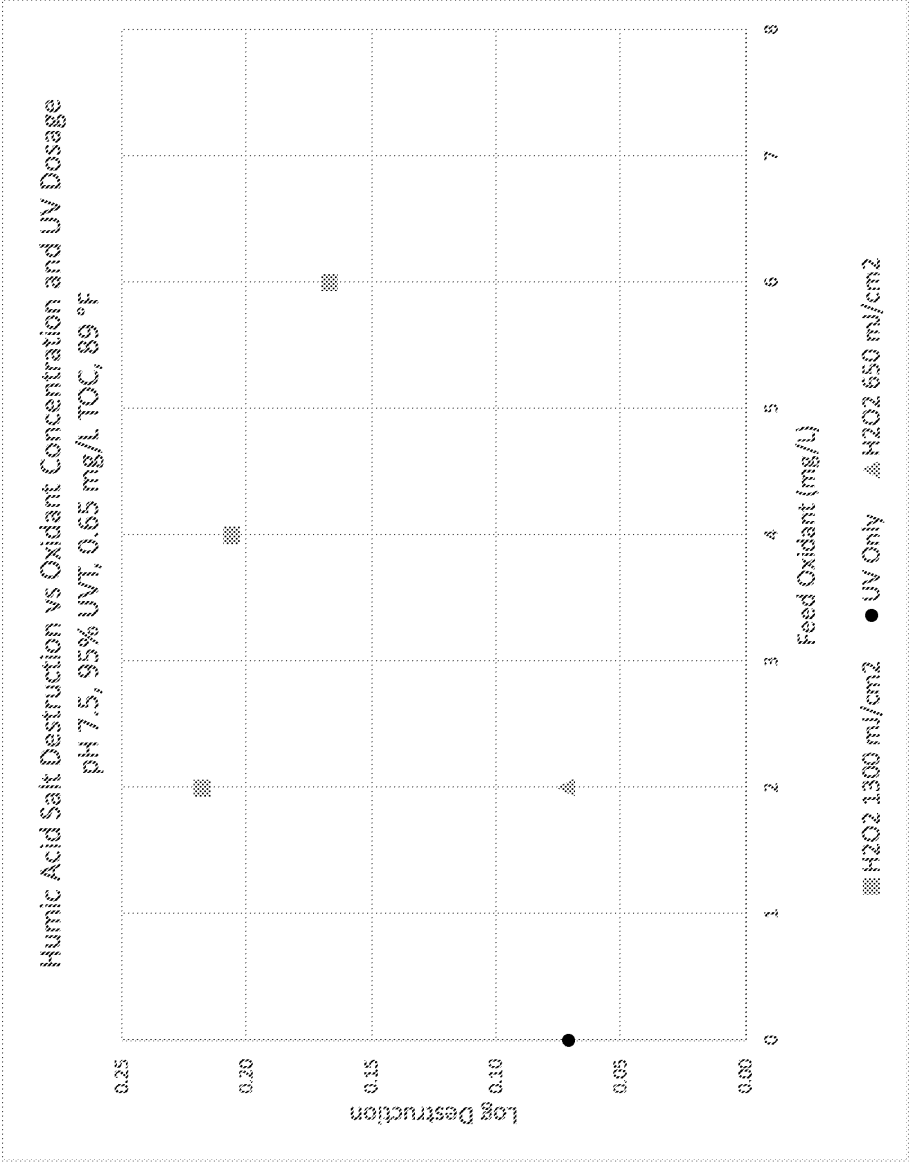


FIG. 27