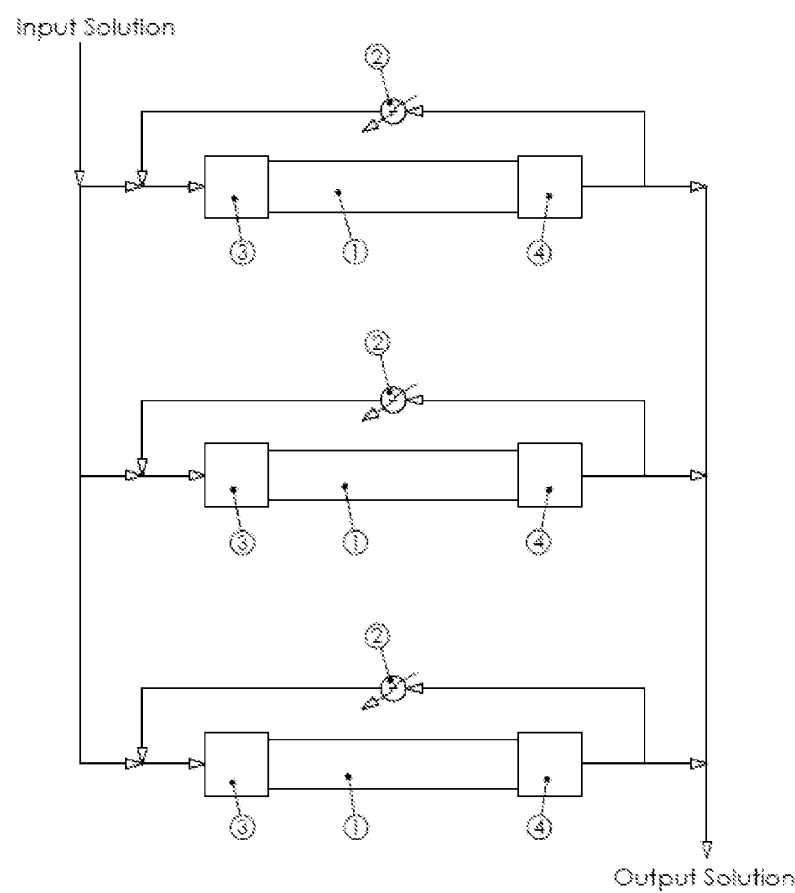




ITEM NO.	DESCRIPTION
1	Photochemical Reactor
2	Recycling/Cooling
3	Sensor Module
4	Ports For Sampling Or Adding Reagents Or Venting

Figure 1

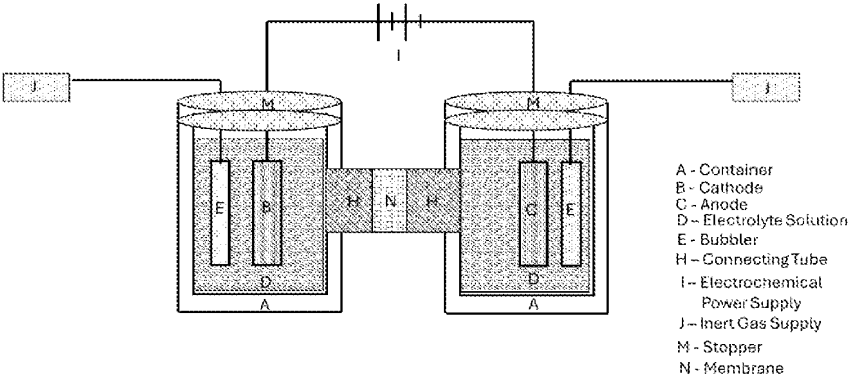


Figure 2

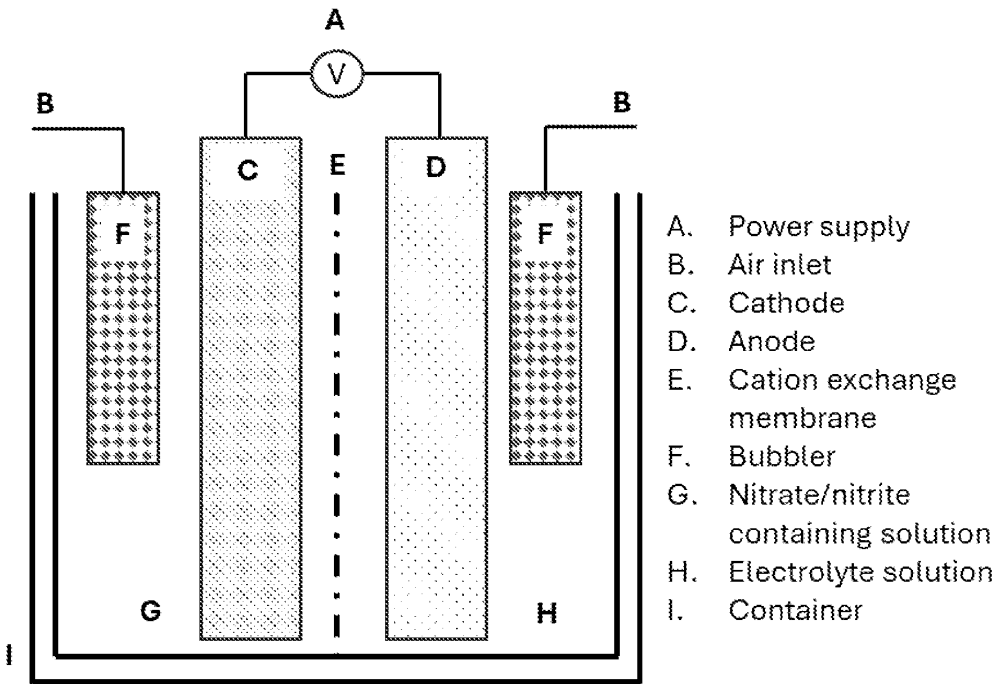


Figure 3

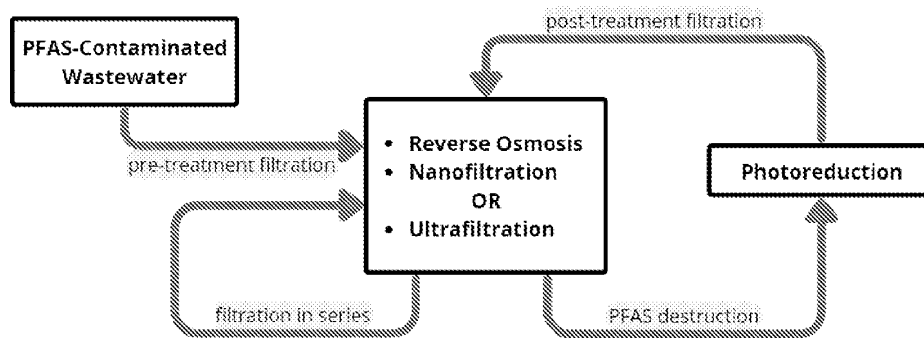
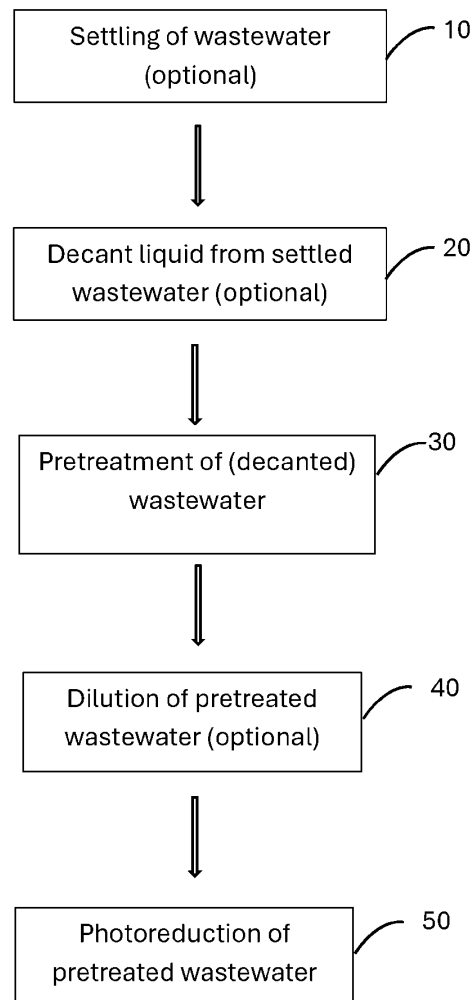


Figure 4

**FIG. 5**

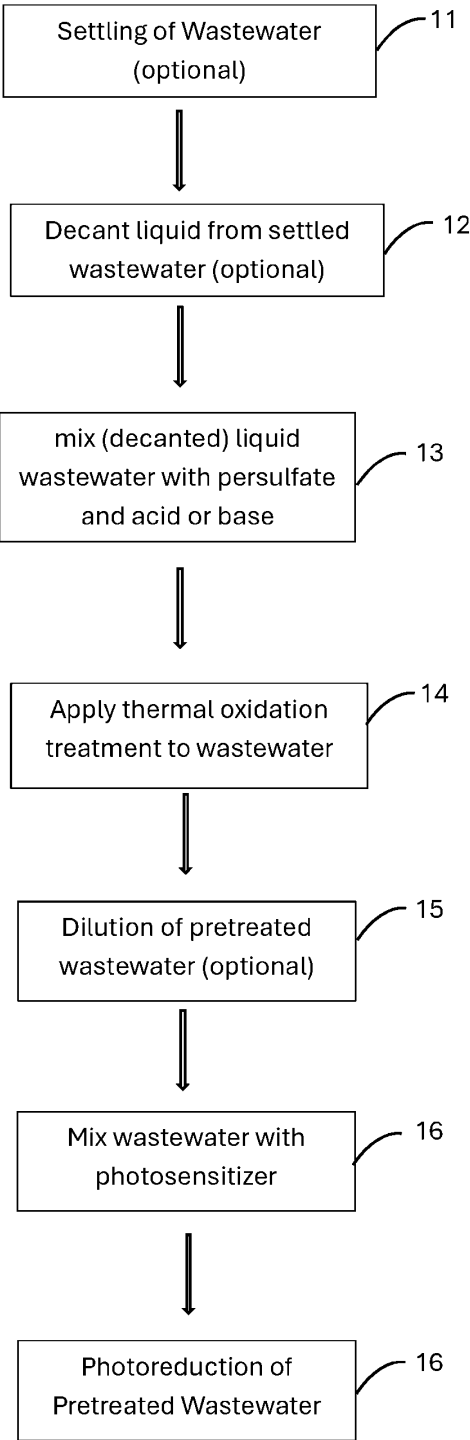


FIG. 6

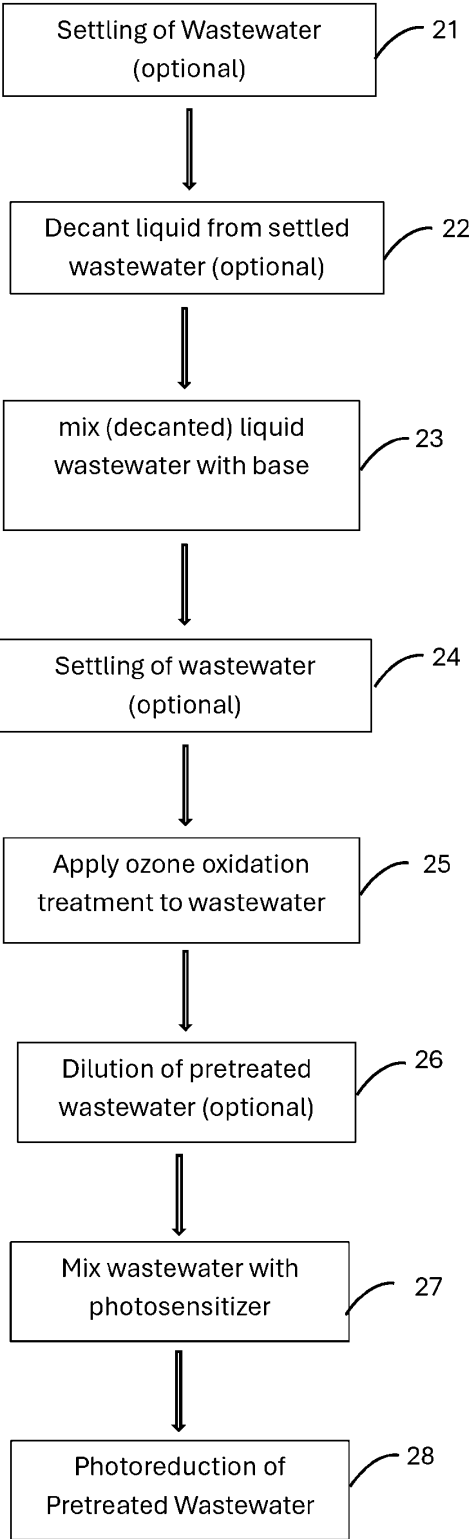


FIG. 7

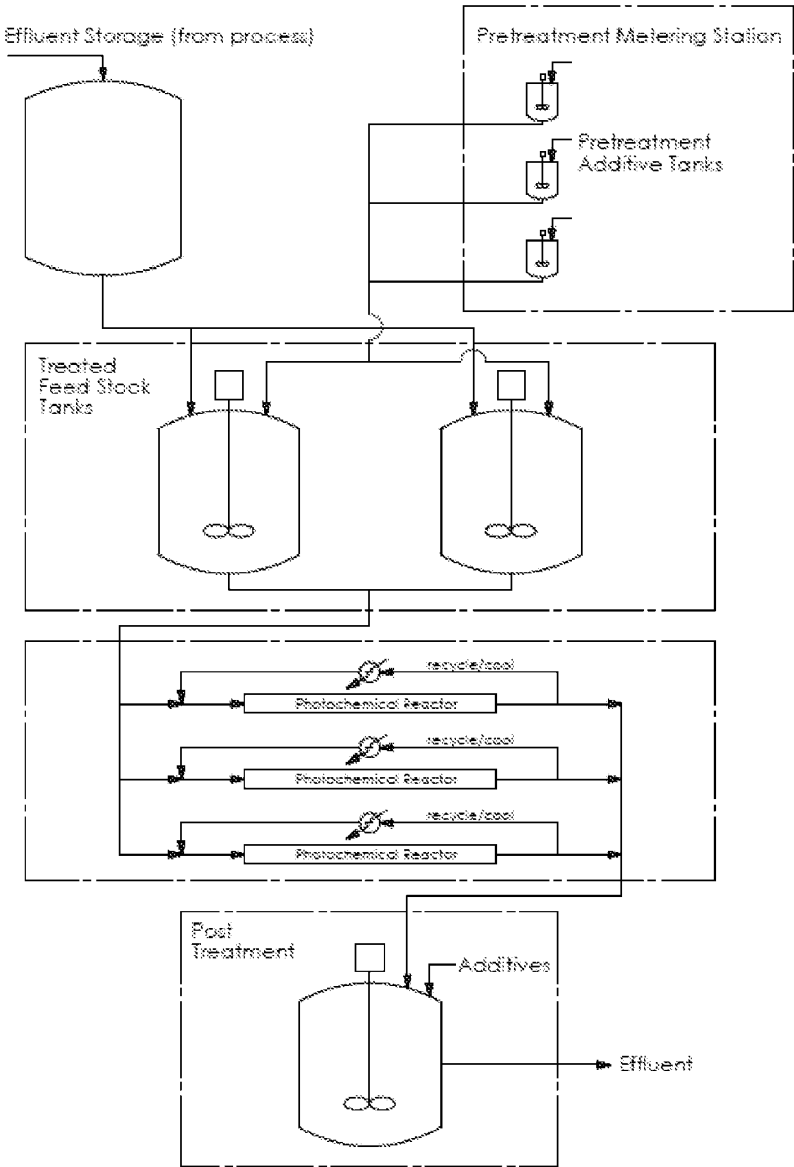


Figure 8

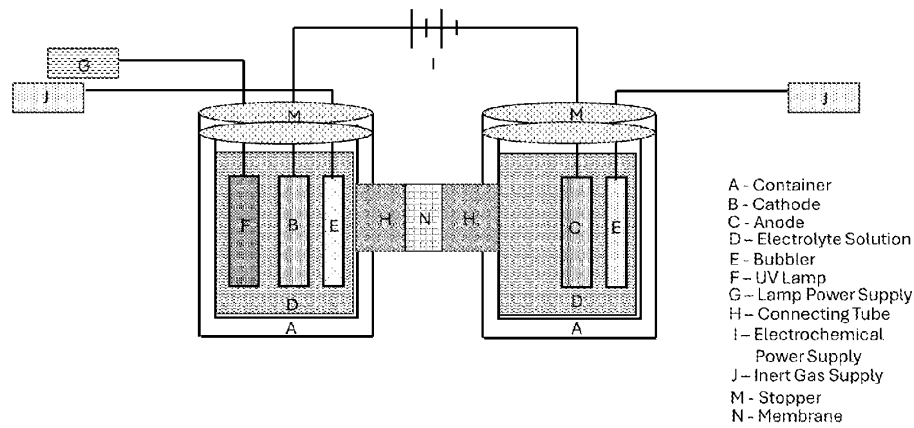


Figure 9

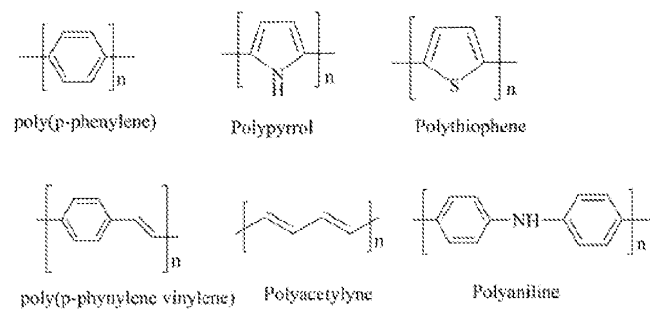
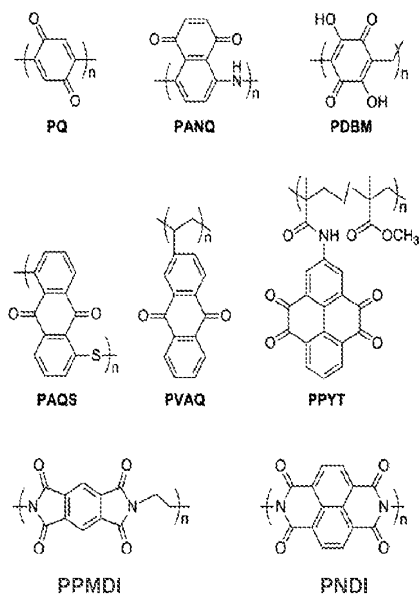
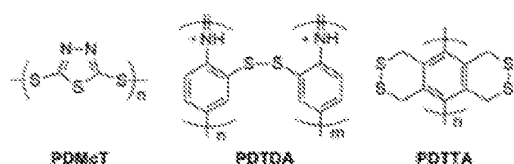


Figure 10

9/28

**Figure 11**

N-type polymeric materials based on conjugated carbonyl groups: polymeric quinone (PQ), poly[5-amino-1,4-naphthoquinone] (PANQ), poly(2,5-dihydroxy-1,4-benzoquinone-3,6-methylene) (PDBM), poly(anthraquinonyl sulfide) (PAQS), poly(2-vinylanthraquinone) (PVAQ), polymer-bound pyrene-4,5,9,10-tetraone (PPYT), polymeric pyromellitic diimide (PPMDI) and polymeric naphthalene diimide (PNDI).



Typical organodisulfides and their theoretical capacity: poly(2,5-dimercapto-1,3,4-thiadiazole) (PDMcT), poly(2,20-dithiodianiline) (PDTDA), poly(5,8-dihydro-1H,4H-2,3,6,7-tetrathia-anthracene) (PDTTA).

Figure 12

10/28

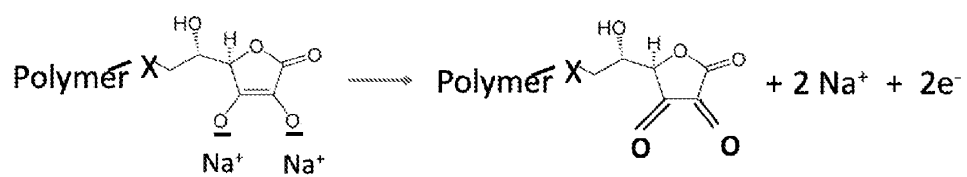


Figure 13

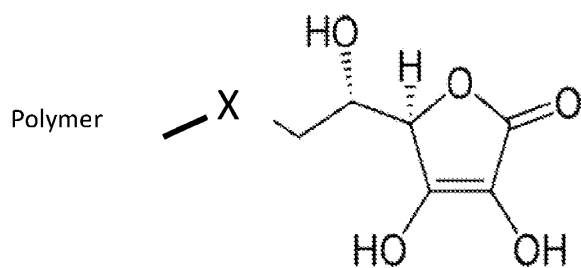


Figure 14

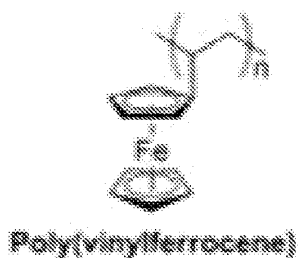


Figure 15

11/28

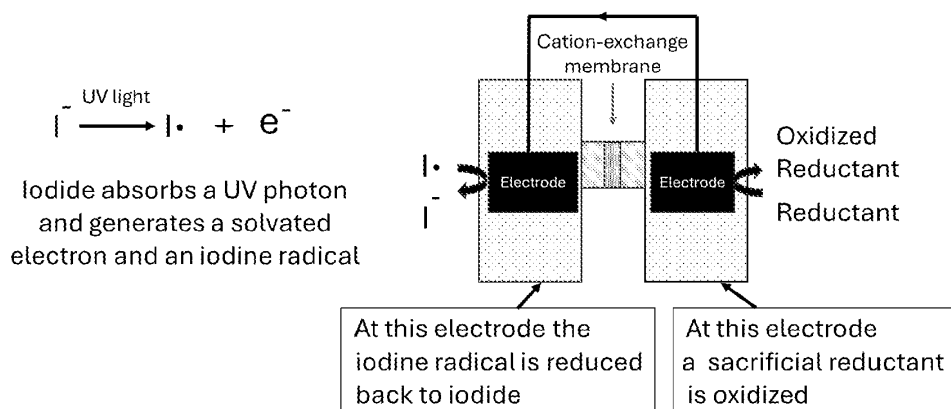


FIG. 16

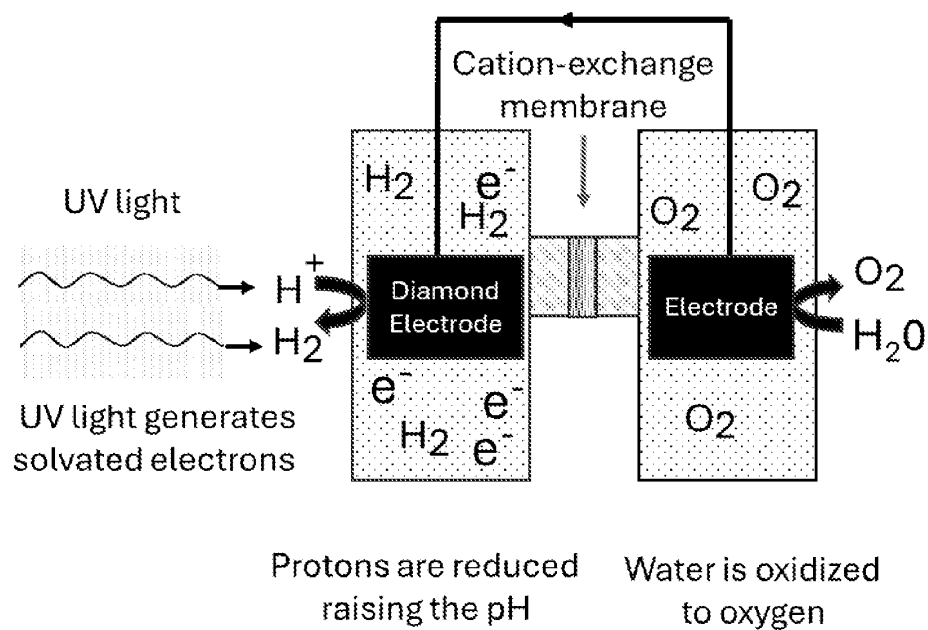


FIG. 17

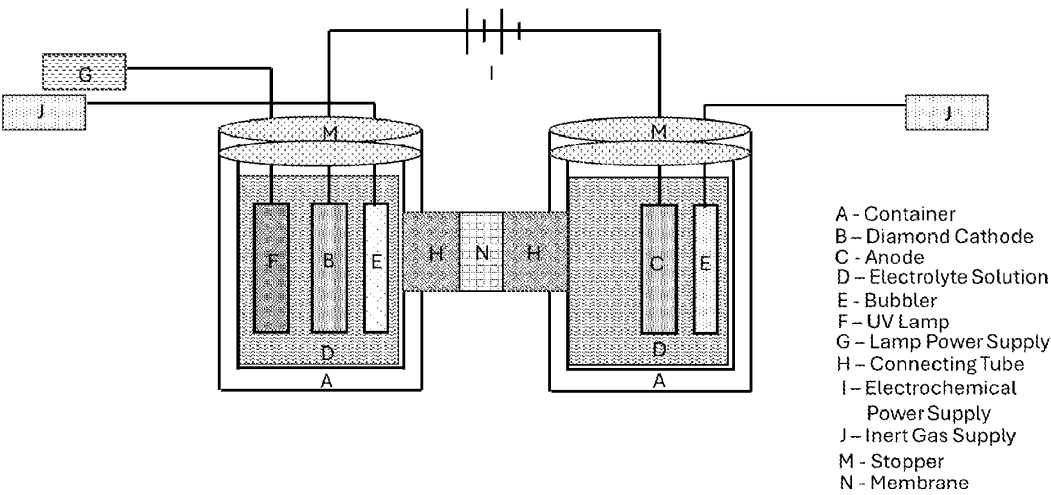


FIG. 18

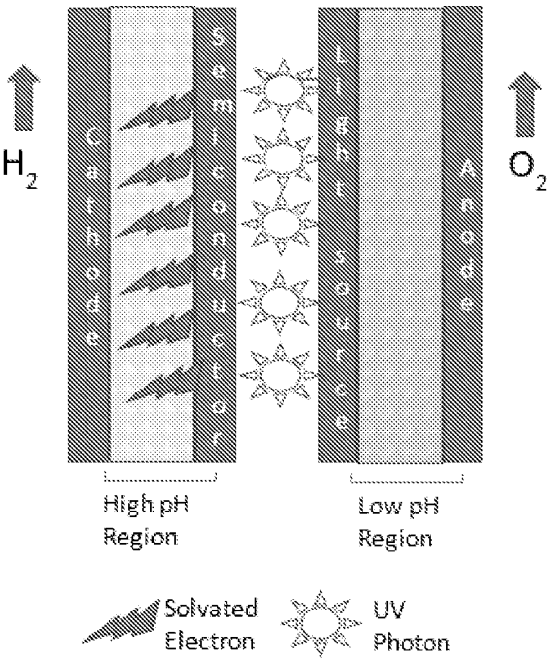
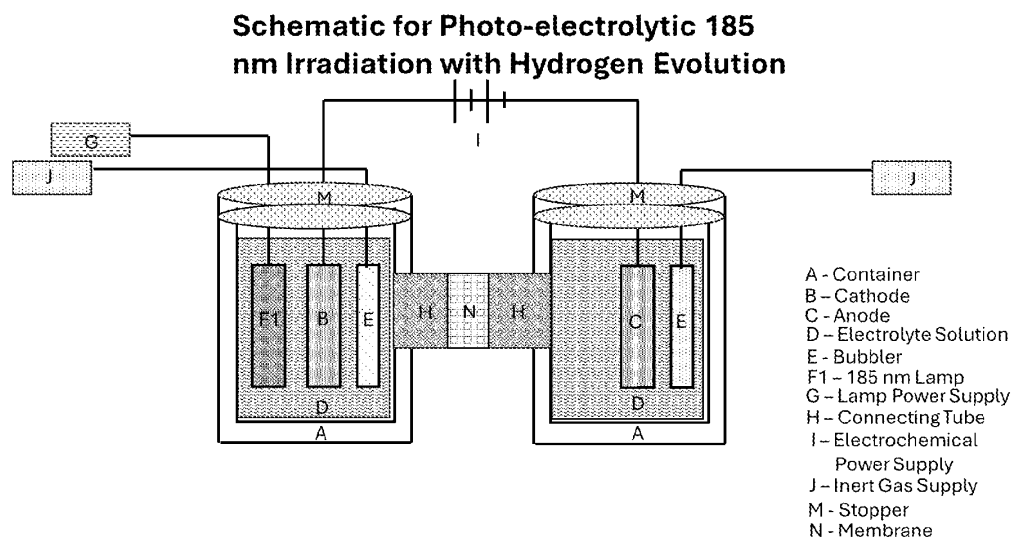
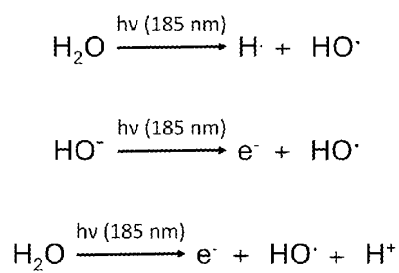


Figure 19

**FIG. 20****FIG. 21**

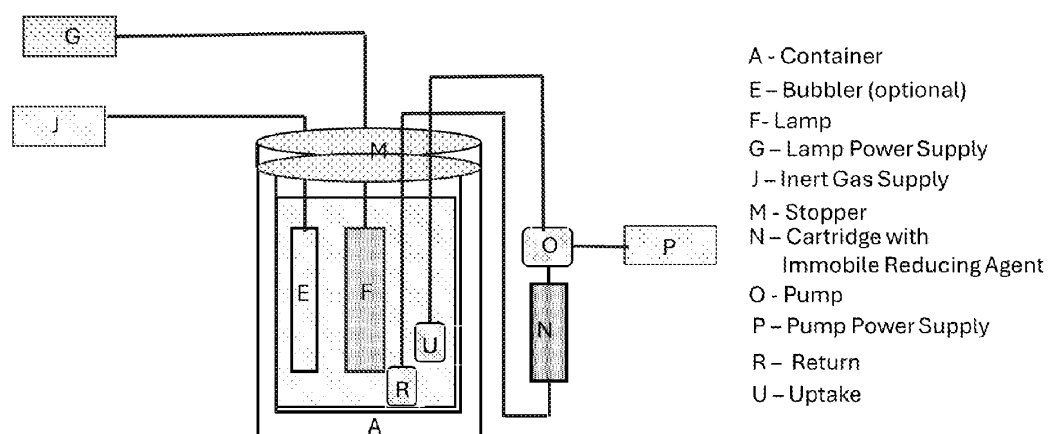


FIG. 22

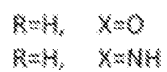
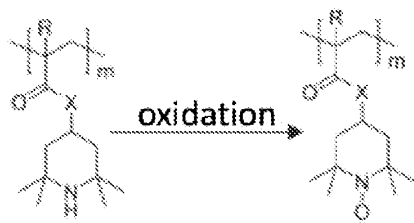
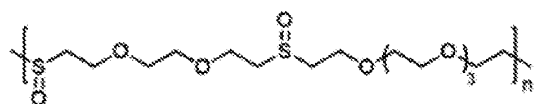


Figure 23



Poly (ether – thioether)



Poly (ether sulfone)

Figure 24

Aromatic Compound (ArC) + electron $\rightarrow$ Aromatic Anion (ArC⁻)

ArC⁻ + Light $\rightarrow$ Aromatic anion Excited State (ArC^{-*})

Aromatic Compound (ArC) - electron $\rightarrow$ Aromatic Cation (ArC⁺)

ArC⁺ + Light $\rightarrow$ Aromatic Cation Excited State (ArC^{++*})

Figure 25

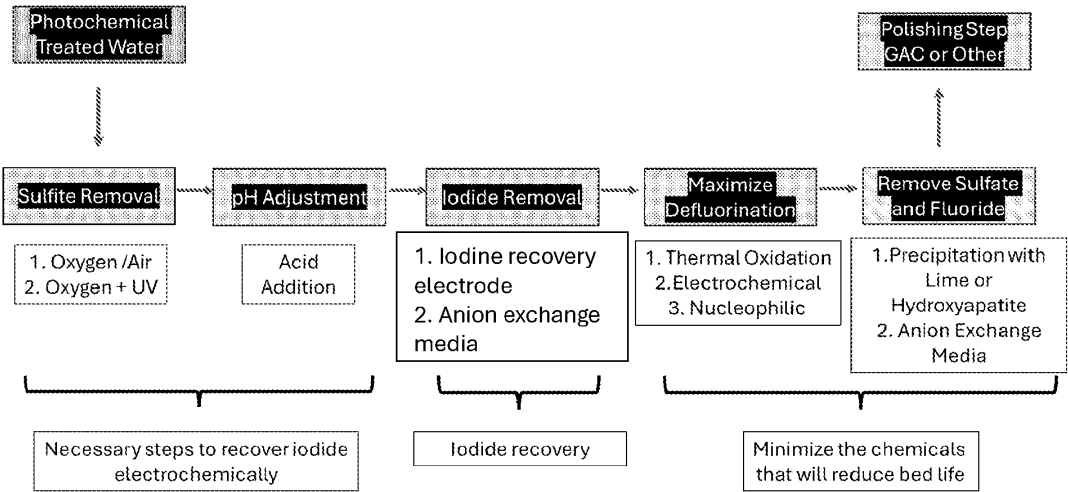


Figure 26

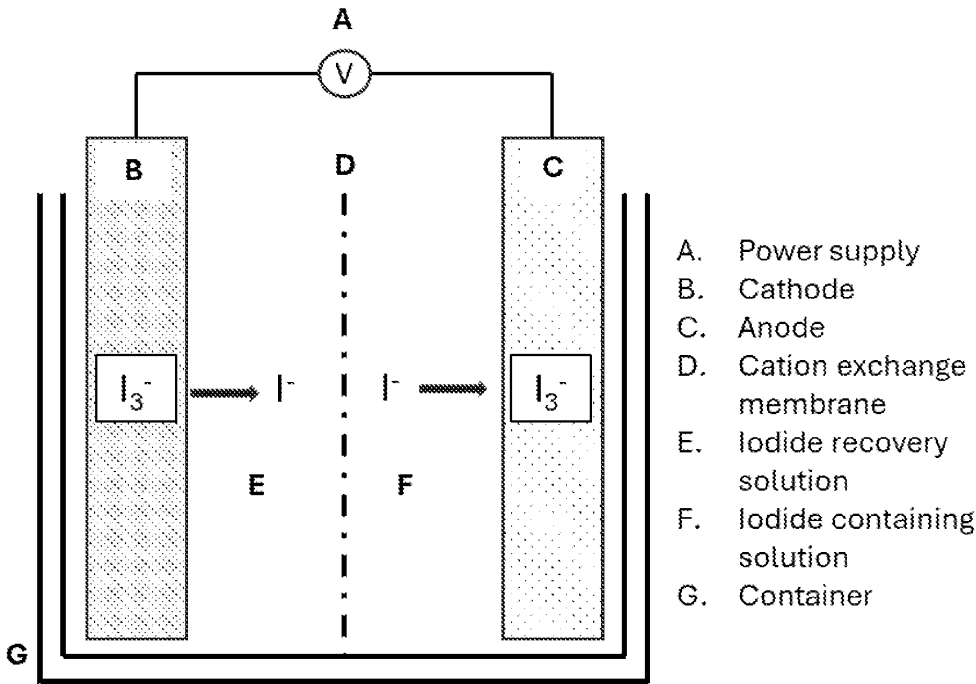
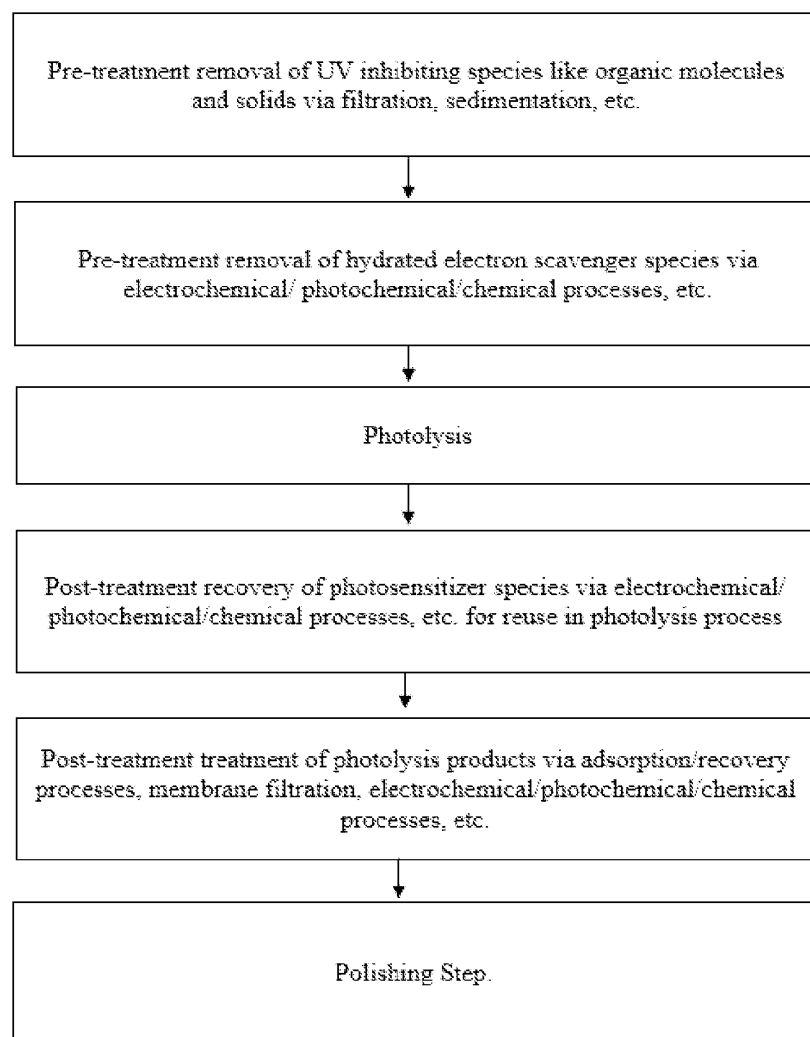


Figure 27

**Figure 28**

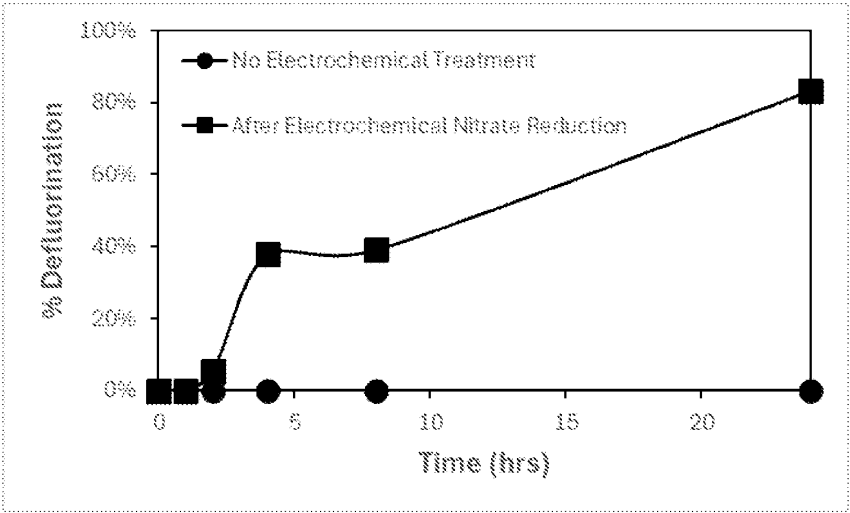


Figure 29

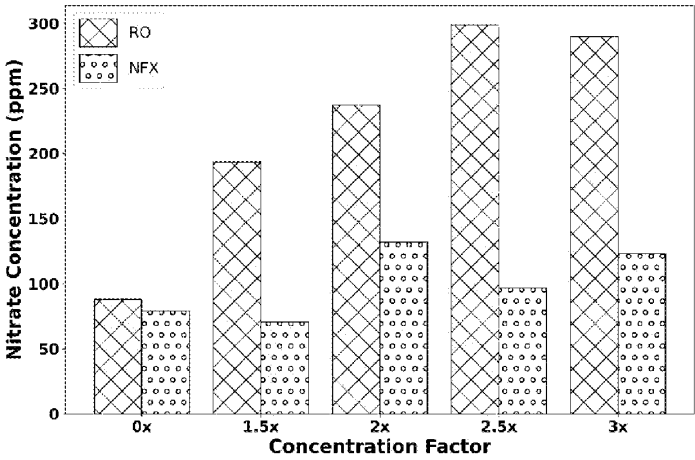


Figure 30

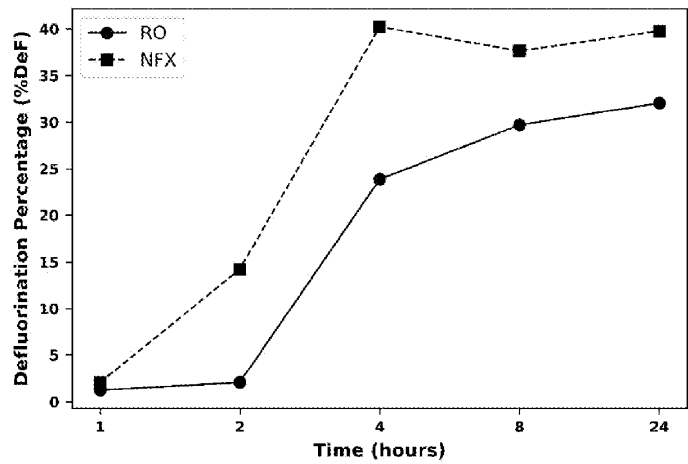


Figure 31

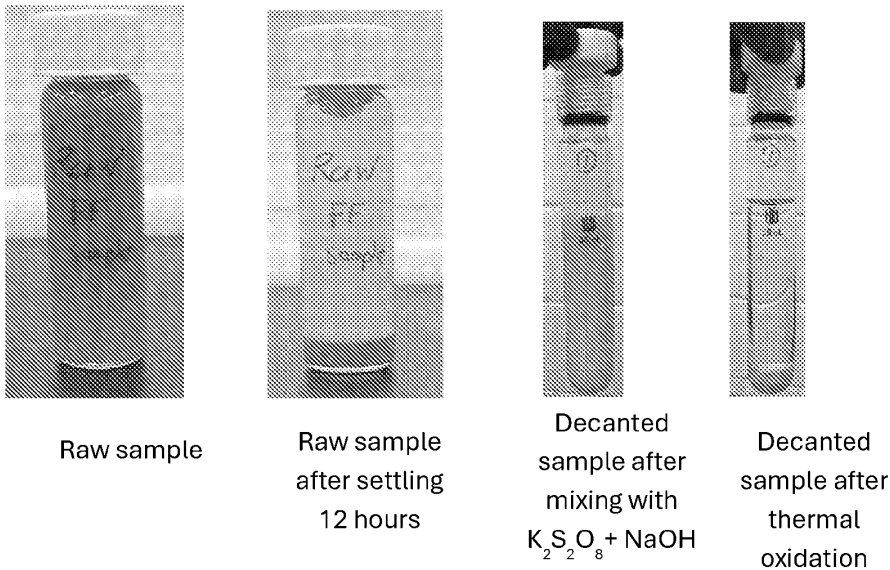


FIG. 32

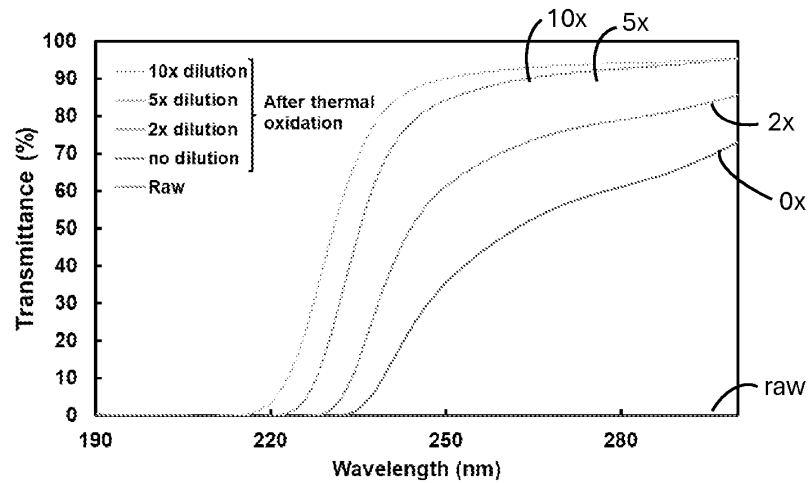


FIG. 33

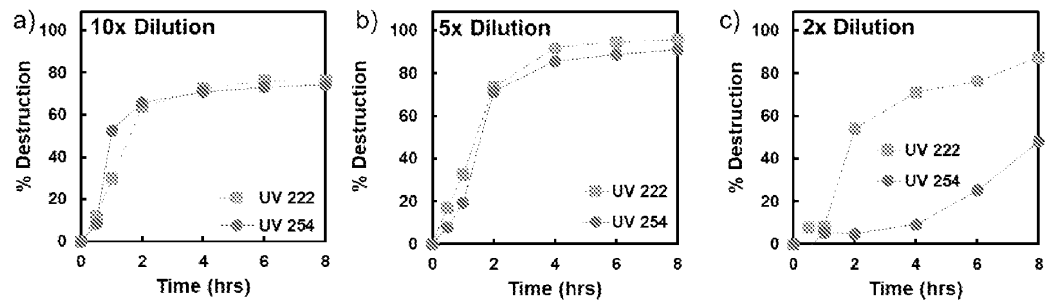


FIG. 34

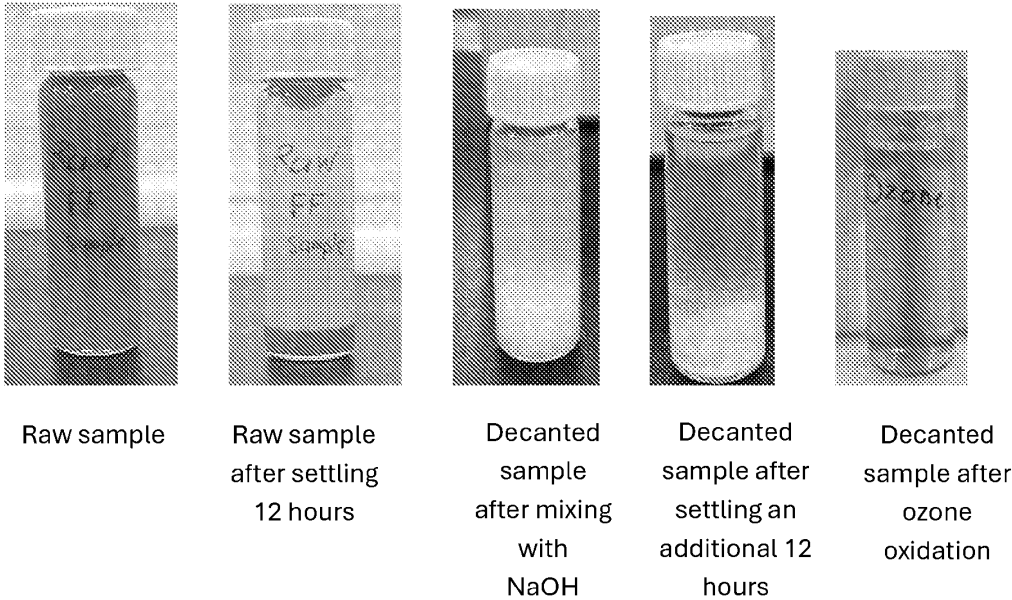


FIG. 35

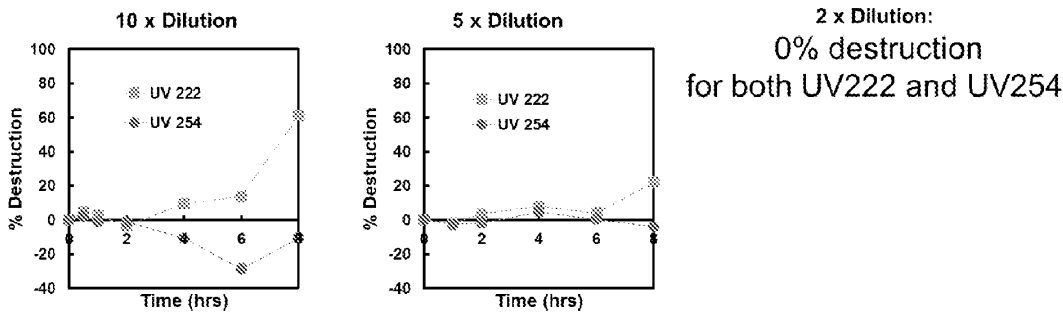


FIG. 36

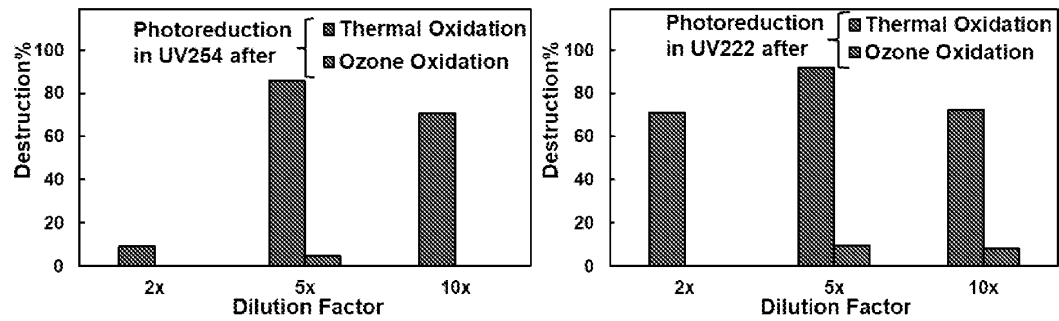


FIG. 37

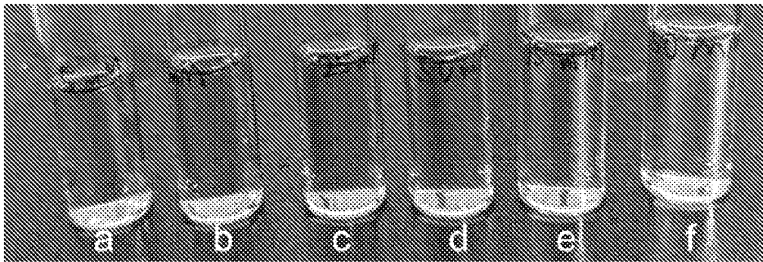


FIG. 38

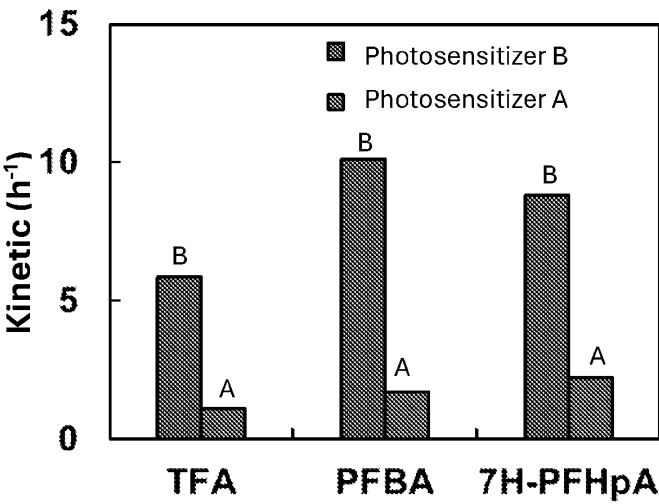


FIG. 39

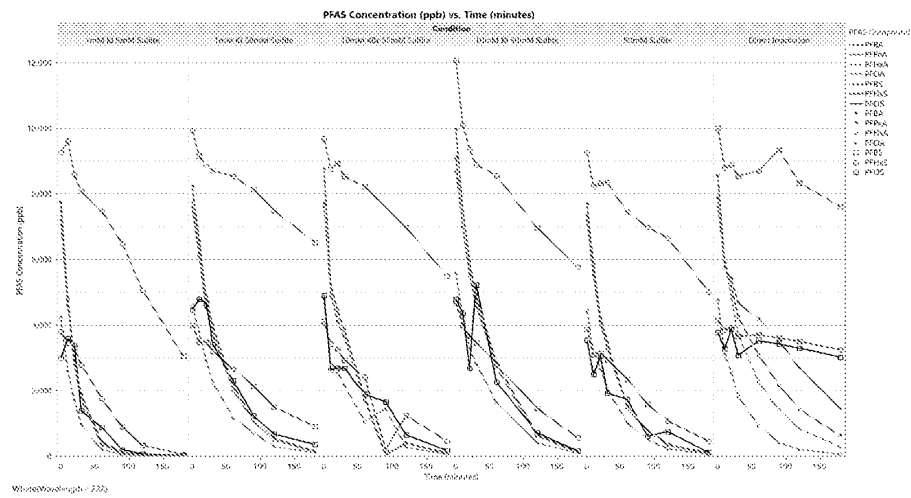


Figure 40

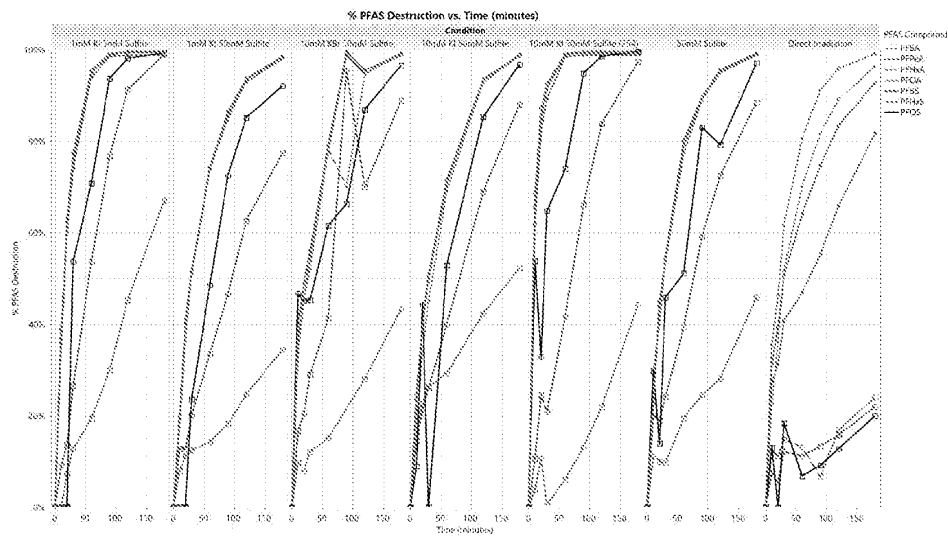


Figure 41

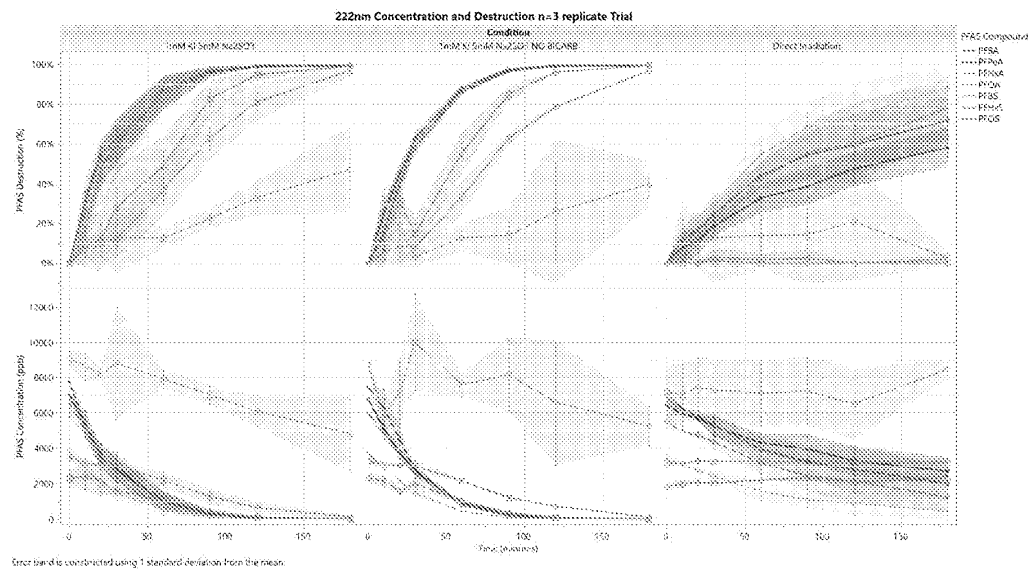


Figure 42

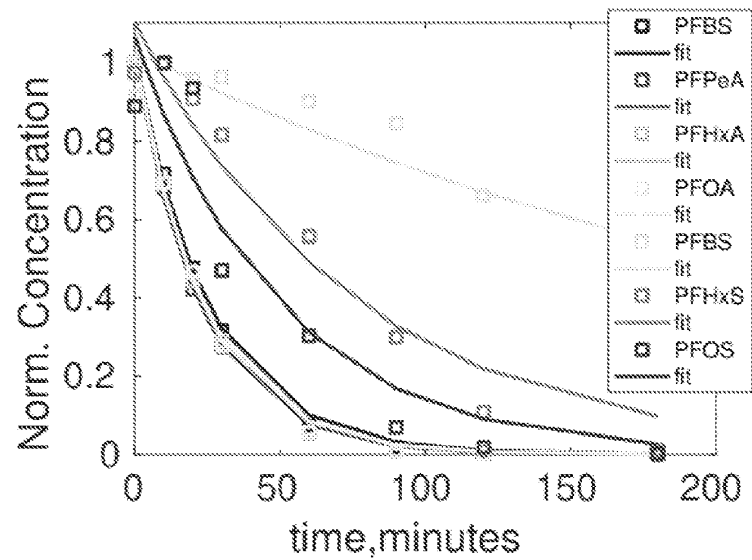


Figure 43

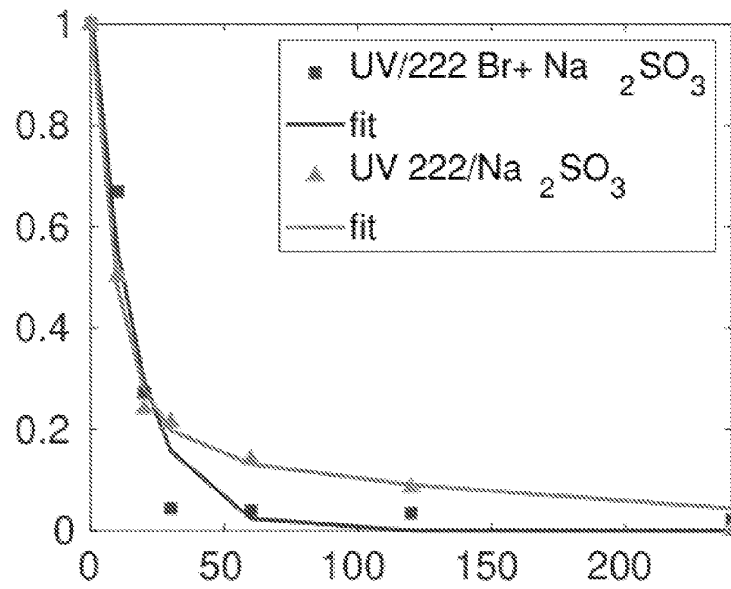


Figure 44

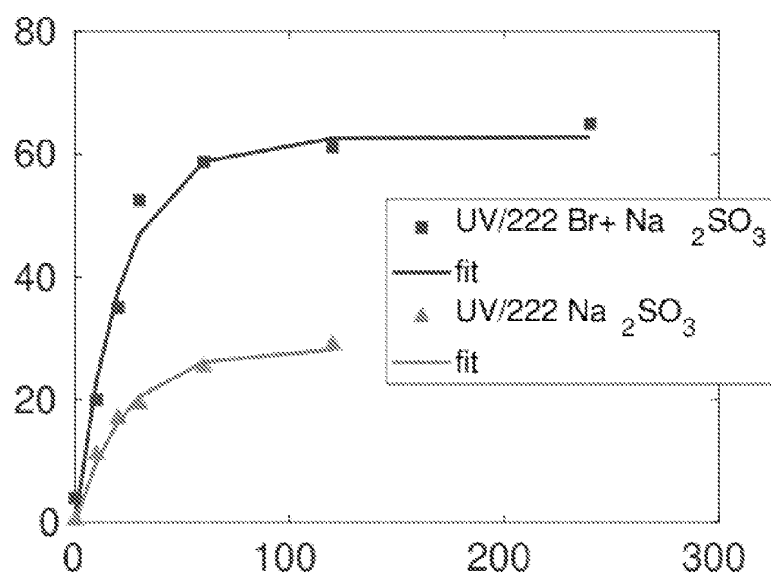


Figure 45

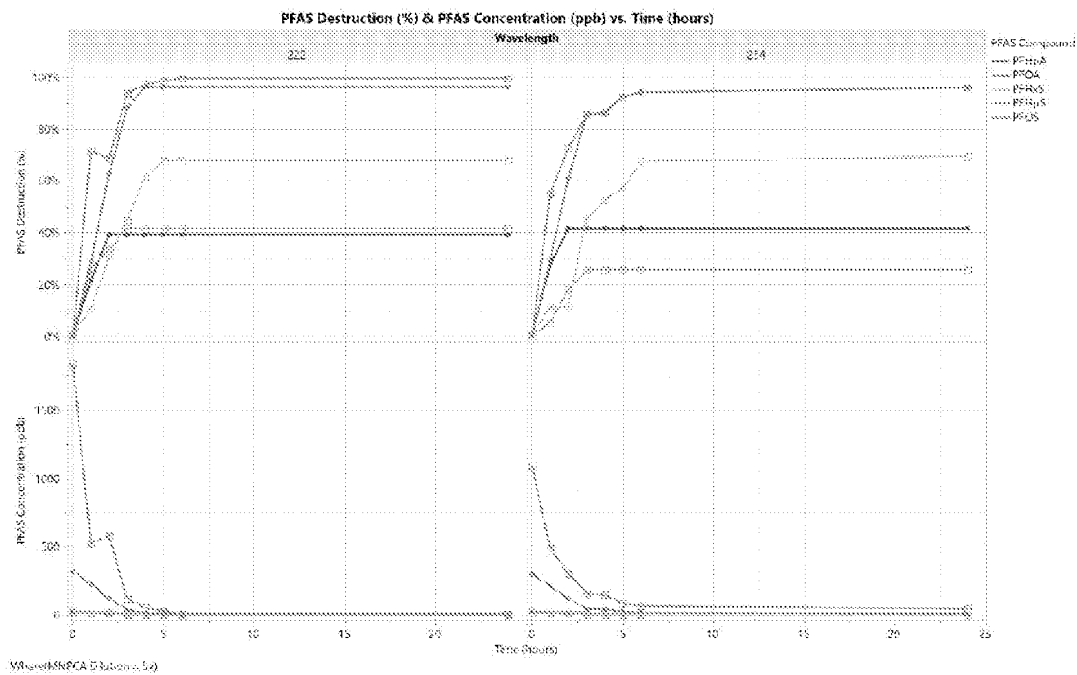


Figure 46

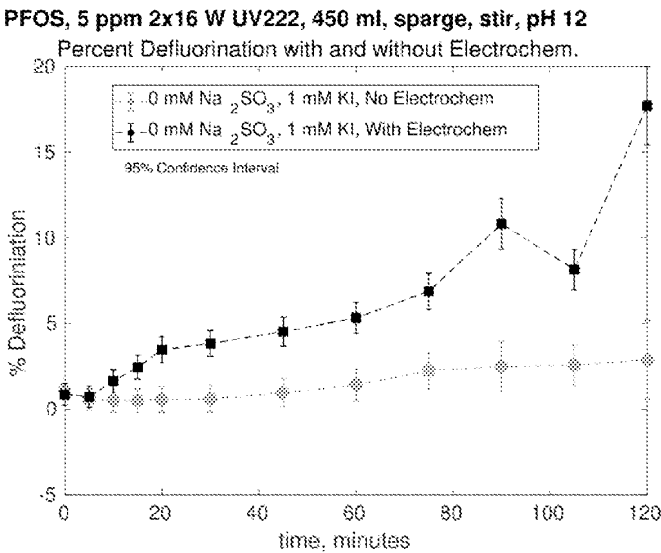


Figure 47

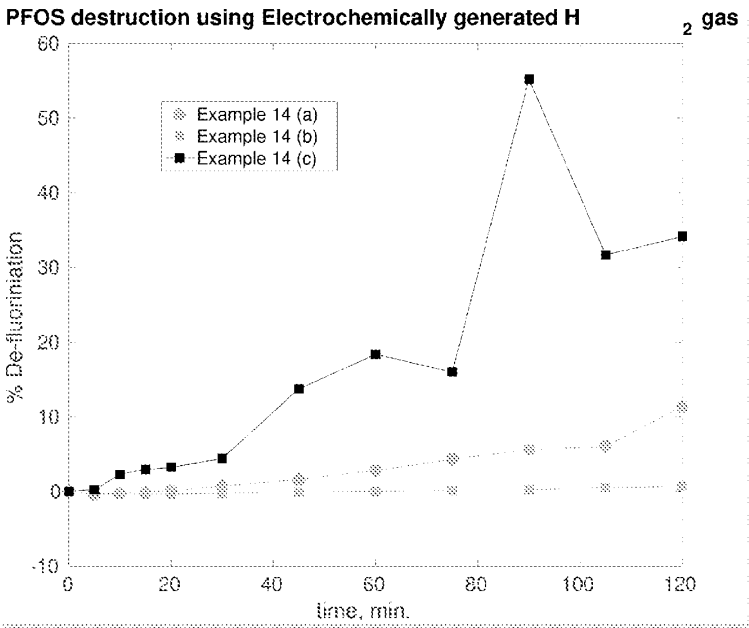


Figure 48

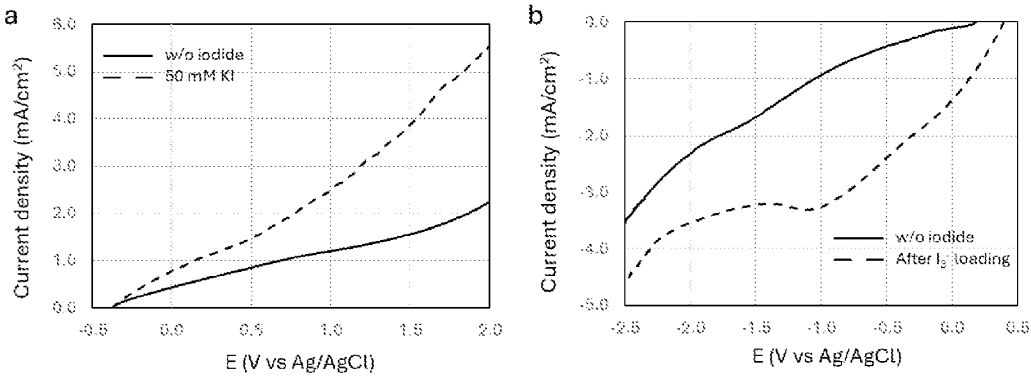


Figure 49

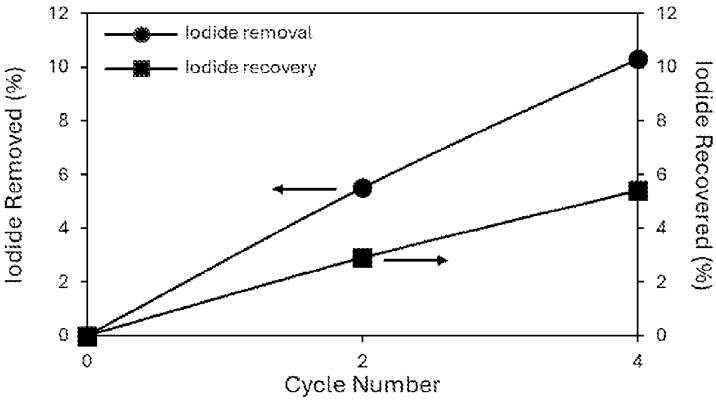


Figure 50