



(51) International Patent Classification:

C02F 1/32 (2023.01) C02F 1/02 (2023.01)
C02F 1/66 (2023.01) C02F 1/78 (2023.01)
C02F 1/72 (2023.01) C02F 103/06 (2006.01)

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(21) International Application Number:

PCT/US2024/037886

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(22) International Filing Date:

12 July 2024 (12.07.2024)

(81) Designated States (unless otherwise indicated, for every kind of national protection available):

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/513,782 14 July 2023 (14.07.2023) US
63/591,040 17 October 2023 (17.10.2023) US
63/635,938 18 April 2024 (18.04.2024) US

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(84) Designated States (unless otherwise indicated, for every kind of regional protection available):

ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE,

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(54) Title: METHODS AND SYSTEMS FOR RECYCLING MATERIALS DURING PFAS DESTRUCTION

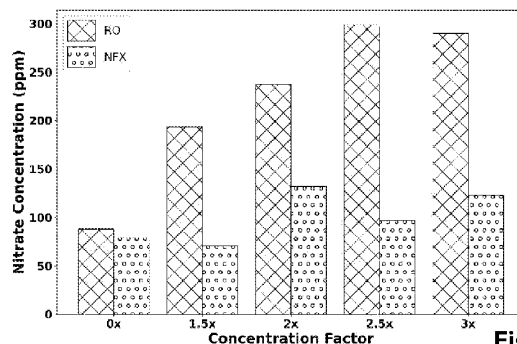


Figure 30

(57) Abstract: Methods, systems, and devices for PFAS destruction including providing water containing PFAS to a reactor vessel, irradiating the water with UV light under conditions to destroy at least a portion of the PFAS, passing the treated water through a selective membrane to form permeate and membrane reject comprising PFAS, providing the membrane reject back to the reactor vessel, providing additional water containing PFAS to the reactor vessel within the reactor vessel or before being provided to the reactor vessel, and irradiating the membrane reject and the additional water containing PFAS within the reactor vessel with UV light. The steps may be repeated a plurality of times such that PFAS that is not destroyed is recycled through the reactor vessel. Sensitizers may be added and may also be recycled in the membrane reject with the PFAS.

[Continued on next page]

SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*