CLAIMS:

1. A method of purifying an organic solvent, comprising:

passing the organic solvent through a first filter unit (112), a second filter unit (116), a third filter unit (114), and a fourth filter unit (122) to obtain a purified organic solvent, wherein the second filter unit (116) is downstream of the first filter unit (112), the third filter unit is disposed between the first (112) and second filter units (116), and the fourth filter unit (122) is downstream of the second filter unit (116);

wherein the first filter unit (112) comprises a first housing and at least one first filter (112a) in the first housing, and the first filter (112a) comprises a filtration medium having a first average pore size;

wherein the second filter unit (116) comprises a second housing and at least two second filters (116a) in the second housing, the at least two second filters (116a) are arranged in the second housing in parallel, and each of the second filters (116a) independently comprises a filtration medium having a second average pore size;

wherein the third filter unit (114) comprises a third housing and at least one third filter (114a) in the third housing, the at least one third filter (114a) comprises a filtration medium having a third average pore size, and the filtration medium in the at least one third filter (114a) comprises an ion exchange membrane;

wherein the fourth filter unit (122) comprises a fourth housing and at least two fourth filters (122a) in the fourth housing, the at least two fourth filters (122a) are arranged in the fourth housing in parallel, and each of the fourth filters (122a) independently comprises a filtration medium having a fourth average pore size; and

wherein the number of the first filter (112a) in the first filter unit (112) is smaller than the number of the second filters (116a) in the second filter unit (116), the first average pore size is larger than the second average pore size, the number of the first filter (112a) in the first filter unit (112) is smaller than the number of the third filter (114a) in the third filter unit (114), the number of the second filters (116a) in the second filter unit (116) is smaller than the number of the fourth filters (122a) in the fourth filter unit (122), and the fourth average pore size is smaller than the second average pore size.

2. The method of claim 1, wherein the first filter unit (112) comprises one first filter (112a).

3. The method of claim 1, wherein the filtration medium in the first filter (112a) comprises polypropylene, high density polyethylene, ultra high molecular weight polyethylene, nylon, polytetrafluoroethylene, or a perfluoroalkoxy alkane polymer.

4. The method of claim 1, wherein the first average pore size is from 50 nm to 200 nm.

5. The method of claim 1, wherein the second filter unit (116) comprises two or three second filters (116a).

6. The method of claim 1, wherein the filtration medium in the second filter (116a) comprises polypropylene, high density polyethylene, ultra high molecular weight polyethylene, nylon, polytetrafluoroethylene, or a perfluoroalkoxy alkane polymer.

7. The method of claim 1, wherein the second average pore size is from 10 nm to 50 nm.

8. The method of claim 1, wherein the third filter unit (114) comprises two or three third filters (114a).

9. The method of claim 1, wherein the ion exchange membrane in the third filter (114a) comprises polypropylene, high density polyethylene, ultra high molecular weight polyethylene, nylon, polytetrafluoroethylene, or a perfluoroalkoxy alkane polymer.

10. The method of claim 1, further comprising passing the organic solvent exiting the second filer unit (116) to a storage tank (130).

11. The method of claim 10, further comprising recirculating the organic solvent by moving the organic solvent from the storage tank (130) to the first filter unit (112) and passing the organic solvent through the first (112) and second (116) filter units.

12. The method of claim 1, wherein the fourth filter unit (122) comprises 4 to 14 fourth filters (122a).

13. The method of claim 1, wherein the fourth average pore size is at most 10 nm.

14. The method of claim 1, wherein the filtration medium in the fourth filter (122) comprises polypropylene, high density polyethylene, ultra high molecular weight polyethylene, nylon, polytetrafluoroethylene, or a perfluoroalkoxy alkane polymer.

15. The method of claim 1, further comprising recirculating the organic solvent by moving the organic solvent exiting the fourth filter unit (122) to the storage tank (130) and subsequently passing the organic solvent through the fourth filter unit (122).

16. The method of claim 1, further comprising moving the purified solvent to a packaging station (140) disposed downstream of the fourth filter unit (122).

17. The method of claim 1, wherein the organic solvent comprises cyclohexanone, ethyl lactate, n-butyl acetate, propylene glycol monomethyl ether, propylene glycol monomethyl ether acetate, 4-methyl-2-pentanol, or propylene carbonate.

18. The method of claim 1, wherein passing an organic solvent is performed at a flow rate of from 25 to 170 L/min.

19. A system (10), comprising:

a first filter unit (112), wherein the first filter unit (112) comprises a first housing and at least one first filter (112a) in the first housing, and the first filter (112a) comprises a filtration medium having a first average pore size;

a second filter unit (116) downstream of and in fluid communication with the first filter unit (112), wherein the second filter unit (116) comprises a second housing and at least two second filters (116a) in the second housing, the at least two second filters (116a) are arranged in the second housing in parallel, and each of the second filters (116a) independently comprises a filtration medium having a second average pore size;

a third filter unit (114) disposed between the first (112) and second (116) filter units, wherein the third filter unit (114) comprises a third housing and at least one third filter (114a) in the third housing, the at least one third filter (114a) comprises a filtration medium having a third average pore size, and the filtration medium in the at least one third filter (114a) comprises an ion exchange membrane;

a fourth filter unit (122) downstream of the second filter unit (116), wherein the fourth filter unit (122) comprises a fourth housing and at least two fourth filters (122a) in the fourth housing, the at least two fourth filters (122a) are arranged in the fourth housing in parallel, and each of the fourth filters (122a) independently comprises a filtration medium having a fourth average pore size;

wherein the number of the first filter (112a) in the first filter unit (112) is smaller than the number of the second filters (116a) in the second filter unit (116), the first average pore size is larger than the second average pore size, the number of the first filter (112a) in the first filter unit (112) is smaller than the number of the third filter (114a) in the third filter unit (114), the number of the second filters (116a) in the second filter unit (116) is smaller than the number of the fourth filters (122a) in the fourth filter unit (122), and the fourth average pore size is smaller than the second average pore size.