James Fraser STODDART

List of Publications and Patents

Evanston IL **May 2021**

COMMUNICATIONS, PAPERS AND REVIEWS

1. The analytical importance of the methoxy content of Acacia gum exudates (D.M.W. Anderson, G.M. Cree, M.A. Herbich, K.A. Karamalla, J.F. Stoddart), *Talanta* **1964**, *11*, 1559–1560.
2. An infrared method for the determination of small amounts of acetaldehyde in aqueous solution (D.M.W. Anderson, J.F. Stoddart) in Proceedings of S.A.C. Symposium, Nottingham, ed. P.W. Shallis (Heffer and Sons, Cambridge) 1965, 232–238.
3. The use of Biogel-P in the gel filtration of polysaccharides (D.M.W. Anderson, I.C.M. Dea, S. Rahman, J.F. Stoddart), *Chem. Commun.* **1965**,145–146. **[28]**
4. Some observations on molecular weight estimations by molecular-sieve chromatography (D.M.W. Anderson, J.F. Stoddart), *Anal. Chim. Acta* **1966**, *34*, 401–406. **[55]**
5. The use of molecular-sieve chromatography in studies on Acacia senegal gum (gum arabic) (D.M.W. Anderson, J.F. Stoddart), *Carbohyd. Res.* **1966**, *2*, 104–114.
6. Some structural features of *Acacia senegal* gum (gum arabic) (D.M.W. Anderson, Sir Edmund Hirst, J.F. Stoddart), *J. Chem. Soc. (C)* **1966**, 1959–1966. **[63]**
7. Theories of molecular-sieve chromatography (D.M.W. Anderson, J.F. Stoddart), *Lab. Practice* **1967**, *16*, 841–846.
8. Some structural features of *Acacia arabica* gum (D.M.W. Anderson, Sir Edmund Hirst, J.F. Stoddart), *J. Chem. Soc. (C)* **1967**, 1476–1486. **[40]**
9. Analytical Chemistry (D.M.W. Anderson, T.B. Pierce, J.F. Stoddart, J.D. Wilson), *Ann. Reports Chem. Soc.* **1967**, *63*, 657–687. **[0]**
10. Isolation of two arabinoses from *Acacia nilotica* gum (R.C. Chalk, J.K.N. Jones, J.F. Stoddart, W.A. Szarek), *Canad. J. Chem.* **1968**, *46*, 2311–2313. **[5]**
11. Medium heterocyclic rings from carbohydrate precursors (J.F. Stoddart, W.A. Szarek), Abstracts of 156th Amer. Chem. Soc. Mtg., Atlantic City, September 1968, CARB 28; *Canad. J. Chem.* **1968**, *46*, 3061–3069. **[20]**
12. Some structural features of *Citrus limonia* gum (lemon gum) (J.K.N. Jones, J.F. Stoddart), *Carbohyd. Res.* **1968**, *8*, 29–42. **[21]**
13. Some structural features of the mucilage from the bark of *Ulmus fulva* (slippery elm mucilage) (R.J. Beveridge, J.K.N. Jones, J.F. Stoddart, W.A. Szarek), *Carbohyd. Res.* **1969**, *9*, 429–439. **[14]**
14. Conformational studies on 1,3-dioxepans. Part I. 1,3:2,5:4,6-Tri-*O*-methylene-D-mannitol and some related compounds (T.B. Grindley, J.F. Stoddart, W.A. Szarek), *J. Chem. Soc. (B)* **1969**, 172–175. **[19]**
15. Conformational studies on 1,3-dioxepans. Part II. 1,3:2,5:4,6-Tri-*O*-methylene-D-mannitol and some related compounds (T.B. Grindley, J.F. Stoddart, W.A. Szarek), *J. Chem. Soc. (B)* **1969**, 623–626. **[12]**
16. Isochronous and anisochronous *O*-methylene protons in 4,5:9,10-bis-cyclo-hexano-1,3,6,8-tetraoxacyclo-decanes (T.B. Grindley, J.F. Stoddart, W.A. Szarek), 52nd Chemical Institute of Canada Conference in Montreal, May 1969; *J. Am. Chem. Soc.* **1969**, *91*, 4722–4724. **[13]**
17. Large heterocyclic rings from carbohydrate precursors (J.K.N. Jones, J.F. Stoddart, W.A. Szarek), *Canad. J. Chem.* **1969**, *47*, 3213–3215. **[9]**
18. Conformational studies on 1,3-dioxepans. Part III. 1,6-Dideoxy-2,5-*O*-methylene-D-mannitol and some related compounds (J.F. Stoddart, W.A. Szarek), Abstracts of 158th Amer. Chem. Soc. Meeting, New York, 1969, CARB 24; *J. Chem. Soc. (B)* **1971**, 437–442. **[18]**
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22. Molecular structure and conformations of carbohydrates (J.F. Stoddart) in MTP International Review of Science, Organic Chemistry, Series One, Volume 7, ed. G.O. Aspinall, 1973, 1–30.
23. Stereochemistry at Sheffield (J.F. Stoddart), *Chem. Br.* **1973**, *11*, 362–363. **[1]**

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27. Stereospecific synthesis of the *trans-anti-trans-* and *trans-syn-trans*-isomers of dicyclohexyl-18-crown-6 (J.F. Stoddart, C.M. Wheatley), *J. Chem. Soc., Chem. Commun.* **1974**, 390–391. **[22]**
28. The conformational behaviour of some medium-sized ring systems (W.D. Ollis, J.F. Stoddart, I.O. Sutherland), *Tetrahedron* **1974**, *30*, 1903–1921. **[60]**
29. Synthesis of macrobicyclic polyethers with carbon bridgeheads (A.C. Coxon, J.F. Stoddart), *J. Chem. Soc., Chem. Commun.* **1974**, 537. **[14]**
30. Constitutional isomerism in bicyclic diacetals and the conformational behaviour of *cis*-fused 1,3,6,8-tetraoxa-bicyclo[5,3,0]decanes (I.J. Burden, J.F. Stoddart), *J. Chem. Soc., Chem. Commun.* **1974**, 863–864. **[7]**
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36. The synthesis and conformational behaviour of *N,N',N''*-trimethyltrianthranilide (W.D. Ollis, J.A. Price, J.S. Stephanatou, J.F. Stoddart), *Angew. Chem., Int. Ed. Engl.* **1975**, *14*, 169. **[18]**
37. Isomerism in bicyclic diacetals. Part I. 1,3:2,4- and 1,4:2,3-di-*O*-methylene-erythritol (I.J. Burden, J.F. Stoddart), *J. Chem. Soc., Perkin Trans. 1* **1975**, 666–674. **[24]**
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PROVISIONAL PATENT APPLICATIONS

1. **Serial No.**: 61/314,889
Inventors: J. F. Stoddart, A. M. Z. Slawin, R. S. Forgan, R. A. Smaldone

Filing Date: 2010-03-17
Title: Nanoporous carbohydrate frameworks

2. **Serial No.**: 61/351,704
Inventors: J. F. Stoddart, J. J. Gassensmith, R. S. Forgan, R. A. Smaldone
Filing Date: 2010-06-04
Title: Sequestration and detection of carbon dioxide by a metal organic framework

3. **Serial No.:** 61/314,897
Inventors: J. F. Stoddart, C.-H. Sue, S. Basu
Filing Date: 201-03-17
Title: A novel purification of $CBPQT^{4+}$ macrocycle

4. **Serial No**.: 61/488,605
Inventors: S. I. Stupp, J. F. Stoddart, A. K. Shveyd, A. S. Tayi, C.-H. Sue
Filing Date: 2011-05-20
Title: Lock-arm supramolecular ordering

5. **Serial No**.: 61/498,262
Inventors: S. I. Stupp, J. F. Stoddart, A. K. Shveyd, A. S. Tayi, C.-H. Sue
Filing Date: 2011-06-17
Title: Visible pleochroism in a supramolecular material

6. **Serial No**.: 61/498,277
Inventors: S. I. Stupp, J. F. Stoddart, A. K. Shveyd, A. S. Tayi, C.-H. Sue
Filing Date: 2011-06-17
Title: Supramolecular design for ferroelectric charge crystals

7. **Serial No**.: 61/537,852
Inventors: J. F. Stoddart, A. C. Fahrenbach, J. C. Barnes, S. Sampath, A. N. Basuray, H. Li
Filing Date: 2011-09-22
Title: Crystalline bipyridinium radical complexes and uses thereof

8. **Serial No**.: 61/550,748
Inventors: J. F. Stoddart, S. Grunder, A. C. Whalley, C. Valente
Filing Date: 2011-10-24
Title: Molecular gauge blocks for building on the nanoscale

9. **Serial No**.: 61/740,958
Inventors: J. F. Stoddart, J. C. Barnes, M. Juríček
Filing Date: 2012-12-21
Title: Tetracationic cyclophanes and their use in the sequestration of polyaromatic hydrocarbons by way of complexation

10. **Serial No**.: 61/814,066
Inventors: J. F. Stoddart, Z. Liu, M. Frasconi, D. Cao
Filing Date: 2013-04-19
Title: Compounds and methods to isolate gold

11. **Serial No**.: 61/883,352
Inventors: J. F. Stoddart, S. Sampath, A. N. Basuray, K. J. Hartlieb, H.-P. Jaquot de Rouville
Filing Date: 2013-09-27
Title: Methods of making diazaperopyrenium dications and uses thereof

12. **Serial No**.: 62/008,671

Inventors: K. Hartlieb, J. Holcroft, J.F. Stoddart
Filing Date: 2014-06-06
Title: Carbohydrate-mediated purification of petrochemicals

13. **Serial No**.: 62/045,517
Inventors: O. K. Farha, J. J. Gassensmith, J. F. Stoddart, N. C. Jeong
Filing Date: 2014-09-03
Title: Electrochemical detection of carbon dioxide using a carbohydrate based coordination polymer

14. **Serial No**.: 62/045,531
Inventors: J. F. Stoddart, M. Frasconi, S. T. Schneebeli, Z. Liu
Filing Date: 2014-09-03
Title: Redox active triangular organic materials

15. **Serial No**.: 62/045,511
Inventors: J. F. Stoddart, J. C. Barnes, M. Juríček, E. J. Dale, N. A. Vermeulen
Filing Date: 2014-09-03
Title: ExCage: Synthesis of viologen-like pyridinium-based cages for the selective capture of polycyclic aromatic hydrocarbons

16. **Serial No**.: 62/045,514
Inventors: J. F. Stoddart, N. L. Strutt
Disclosure Date: 2014-09-03
Title: A homochiral metal-organic framework with enantiopure pillar[5] arene active domains

17. **Serial No**.: 62/057,059
Inventors: J. F. Stoddart, X. Hou, C. Ke
Filing Date: 2014-09-29
Title: Supramolecular encrypted fluorescent security ink compositions

18. **Serial No**.: 62/057,102
Inventors: J. F. Stoddart, X. Hou, C. Ke, R. B. Pettman
Filing Date: 2014-09-29
Title: Supramolecular encrypted fluorescent security ink compositions

19. **Serial No**.: 62/135,339
Inventors: J. F. Stoddart, D. Chen, A.-J. Avestro, J. Sun, Z. B. Erno
Filing Date: 2015-03-19
Title: Rigid naphthalenediimide triangle structures

20. **Serial No**.: 62/255,490
Inventors: D. Ferris, K. Hartlieb, J. Holcroft, J.F. Stoddart
Filing Date: 2015-11-15
Title: Uptake of pharmaceuticals within cyclodextrin-based porous materials

21. **Serial No**.: 62/278,200
Inventors: Z. Liu, J.F. Stoddart
Filing Date: 2016-01-13
Title: Supramolecular assembly of rigid macrocycles through cooperative hydrogen bond interactions

22. **Serial No**.: 62/288,701
Inventors: M. Frasconi, J.F. Stoddart, J. Sun, Y. Wang
Filing Date: 2016-01-29
Title: Viologen-based rotaxanes

23. **Serial No**.: 62/308,998
Inventors: Z. Liu, S. Nalluri, J.F. Stoddart
Filing Date: 2016-03-16
Title: Rigid chiral redox-active isosceles triangles

24. **Serial No**.: 62/321,290
Inventors: V. Dravid, D. Ferris, K.A. Hujsak, M. Owczarek, A. Prokofjevs, J.F. Stoddart
Filing Date: 2016-04-12
Title: Flexible piezoelectric and antiferroelectric haloimidazole crystals

25. **Serial No**.: 62/382,994
Inventors: V. Dravid, D. Ferris, D. Hong, K.A. Hujsak, M. Owczarek, A. Prokofjevs, J.F. Stoddart
Filing Date: 2016-09-02
Title: Flexible piezoelectric and antiferroelectric haloimidazole crystals

26. **Serial No**.: 62/416,334
Inventors: D. Ferris, K. Hartlieb, J. Holcroft, J.F. Stoddart
Filing Date: 2016-11-02
Title: Loading and bioavailability of ibuprofen/CD-MOF formulations

27. **Serial No**.: 62/531,115
Inventors: Z. Liu, J.F. Stoddart, J. Sun
Filing Date: 2017-07-11
Title: Mechanically interlocked air-stable radicals

28. **Serial No**.: 62/535,579
Inventors: Z. Liu, S. Nalluri, H. Patel, J.F. Stoddart
Filing Date: 2017-07-21
Title: Lithiated cyclodextrin metal organic frameworks and methods of making and using the same

29. **Serial No**.: 62/580,860
Inventors: H. Patel, J.F. Stoddart
Filing Date: 2017-11-02
Title: Troger's base-linked poly(crown ether)s

30. **Serial No**.: 62/619,561
Inventors: S. Nalluri, J.F. Stoddart
Filing Date: 2018-01-19
Title: Rigid chiral photoluminescent isoceles triangular materials

31. **Serial No**.: 62/653,301
Inventors: M. Nguyen, J.F. Stoddart
Filing Date: 2018-04-05
Title: Densely charged catenanes

32. **Serial No**.: 62/658,048
Inventors: I. Roy, J.F. Stoddart
Filing Date: 2018-04-16
Title: Cyclophanes for live-cell imaging

33. **Serial No**.: 62/680,352
Inventors: Z. Liu, J.F. Stoddart
Filing Date: 2018-06-04
Title: Mixed-valence crystal superstructures

34. **Serial No**.: 62/691,923
Inventors: M. Nguyen, J.F. Stoddart
Filing Date: 2018-06-29
Title: Densely Charged Catenanes

35. **Serial No**.: 62/700,614
Inventors: J. Choi, D.J. Kim, J.F. Stoddart, D.-J. Yoo
Filing Date: 2018-07-19
Title: Rechargeable Aluminum Organic Batteries

36. **Serial No**.: 62/799,229
Inventors: I. Roy, J.F. Stoddart
Filing Date: 2019-01-31
Title: Supramolecular Photoprotection of a Photosensitizer for Safe Lysosomal Delivery and Anticancer Therapy

PENDING US PATENT APPLICATIONS

1. **Serial No**.: 13/658,973
Inventors: J. F. Stoddart, S. Grunder, A. C. Whalley, C. Valente
Filing Date: 2012-10-24
Title: Molecular gauge blocks for building on the nanoscale

2. **Serial No**.: 14/733,875
Inventors: J. F. Stoddart, K. J. Hartlieb, J. M. Holcroft
Filing Date: 2015-06-08
Title: Carbohydrate-mediated purification of petrochemicals

3. **Serial No**.: 14/867,826
Inventors: X. Hou, C. Ke, J.F. Stoddart
Filing Date: 2015-09-28
Title: Supramolecular fluorescent dyes

4. **Serial No**.: 14/867,953
Inventors: X. Hou, C. Ke, J.F. Stoddart
Filing Date: 2015-09-28
Title: Supramolecular encrypted fluorescent security ink compositions

5. **Serial No**.: 15/074,161
Inventors: A.-J. Avestro, D. Chen, Z. Erno, J.F. Stoddart, J. Sun
Filing Date: 2016-03-18
Title: Rigid napthalenediimide triangle structures

6. **Serial No**.: 15/218,280
Inventors: D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart
Filing Date: 2016-07-25
Title: Compounds and methods to isolate gold

7. **Serial No**.: 15/350,975
Inventors: D. Ferris, K. Hartlieb, J. Holcroft, J.F. Stoddart
Filing Date: 2016-11-14
Title: Uptake of pharmaceuticals within cyclodextrin-based porous materials

8. **Serial No**.: 16/032,212
Inventors: Z. Liu, J.F. Stoddart, J. Sun
Filing Date: 2018-07-11
Title: Mechanically interlocked air-stable radicals

9. **Serial No**.: 16/069,940
Inventors: Z. Liu, J.F. Stoddart
Filing Date: 2018-07-13
Title: Supramolecular assembly of rigid macrocycles through cooperative hydrogen bond interactions

10. **Serial No**.: 16/085,436
Inventors: Z. Liu, S. Nalluri, J.F. Stoddart
Filing Date: 2018-09-14
Title: Rigid chiral redox-active isoceles triangular materials

11. **Serial No**.: 16/093,256
Inventors: V. Dravid, D. Ferris, D. Hong, K.A. Hujsak, M. Owczarek, A. Prokofjevs, J.F. Stoddart
Filing Date: 2018-10-12
Title: Flexible piezoelectric and antiferroelectric haloimidazole crystals

12. **Serial No**.: 16/269,311
Inventors: X. Hou, C. Ke, R. Pettman, J.F. Stoddart
Filing Date: 2019-02-06
Title: Supramolecular encrypted fluorescent security ink compositions

PCT APPLICATIONS

1. **Serial No**.: PCT/US2011/028866
Inventors: J. J. Gassensmith, R. A. Smaldone, R. S. Forgan, J. F. Stoddart
Filing Date: 2011-03-17
Title: Nanoporous carbohydrate frameworks and the sequestration and detection of molecules using the same

2. **Serial No**.: PCT/US2012/038896
Inventors: S. I. Stupp, J. F. Stoddart, A. K. Shveyd, A. S. Tayi, C.-H. Sue
Filing Date: 2012-05-21
Title: Modular supramolecular approach for co-crystallizaiton of donors and acceptors into ordered networks

3. **Serial No**.: PCT/US2012/042978
Inventors: S. I. Stupp, J. F. Stoddart, A. K. Shveyd, A. S. Tayi, C.-H. Sue

Filing Date: 2012-06-18
Title: Visible pleochroism in a supramolecular material

4. **Serial No**.: PCT/US2013/077144
Inventors: J. F. Stoddart, J. C. Barnes, M. Juríček
Filing Date: 2013-12-20
Title: Tetracationic cyclophanes and their use in the sequestration of polyaromatic hydrocarbons by way of complexation

5. **Serial No**.: PCT/US2014/034697
Inventors: J. F. Stoddart, Z. Liu, M. Frasconi, D. Cao
Filing Date: 2014-04-18
Title: Compounds and methods to isolate gold

6. **Serial No**.: PCT/US2015/034754
Inventors: J. F. Stoddart, K. J. Hartlieb, J. M. Holcroft
Filing Date: 2015-06-08
Title: Carbohydrate-mediated purification of petrochemicals

7. **Serial No**.: PCT/US2015/052670
   Inventors: X. Hou, C. Ke, J.F. Stoddart
   Filing Date: 2015-09-28
   Title: Supramolecular fluorescent dyes

8. **Serial No**.: PCT/US2015/052694
   Inventors: X. Hou, C. Ke, R. Pettman, J.F. Stoddart
   Filing Date: 2015-09-28
   Title: Supramolecular encrypted fluorescent security ink compositions

9. **Serial No**.: PCT/US2016/023111
   Inventors: A.-J. Avestro, D. Chen, Z. Erno, J.F. Stoddart, J. Sun
   Filing Date: 2016-03-16
   Title: Rigid napthalenediimide triangle structures
10. **Serial No**.: PCT/US2016/061963
    Inventors: D. Ferris, K. Hartlieb, J. Holcroft, J.F. Stoddart
    Filing Date: 2016-11-15
    Title: Uptake of pharmaceuticals within cyclodextrin-based porous materials

11. **Serial No**.: PCT/US2017/013301
    Inventors: Z. Liu, J.F. Stoddart
    Filing Date: 2017-01-13
    Title: Supramolecular assembly of rigid macrocycles through cooperative hydrogen bond interactions

12. **Serial No**.: PCT/US2017/015299
    Inventors: M. Frasconi, J.F. Stoddart, J. Sun, Y. Wang
    Filing Date: 2017-01-27
    Title: Viologen-based rotaxanes

13. **Serial No**.: PCT/US2017/022668
    Inventors: Z. Liu, S. Nalluri, J.F. Stoddart
    Filing Date: 2017-03-16
    Title: Rigid chiral redox-active isoceles triangular materials

14. **Serial No**.: PCT/US2017/027170
    Inventors: V. Dravid, D. Ferris, D. Hong, K.A. Hujsak, M. Owczarek, A. Prokofjevs, J.F. Stoddart
    Filing Date: 2017-04-12
    Title: Flexible piezoelectric and antiferroelectric haloimidazole crystals

15. **Serial No**.: PCT/US2018/041551
    Inventors: Z. Liu, J.F. Stoddart, J. Sun
    Filing Date: 2018-07-11
    Title: Mechanically interlocked air-stable radicals

16. **Serial No**.: PCT/US2018/043217
    Inventors: Z. Liu, S. Nalluri, H. Patel, J.F. Stoddart
    Filing Date: 2018-07-23
    Title: Lithiated cyclodextrin metal organic frameworks and methods of making and using the same

17. **Serial No**.: PCT/US2018/059046
    Inventors: H. Patel, J.F. Stoddart
    Filing Date: 2018-11-02
    Title: Troger's base-linked poly(crown ether)s

18. **Serial No**.: PCT/US2019/014415
Inventors: S. Nalluri, J.F. Stoddart
Filing Date: 2019-01-21
Title: Rigid chiral photoluminescent isosceles triangular materials

19. **Serial No**.: PCT/US2019/026095
Inventors: M. Nguyen, J.F. Stoddart
Filing Date: 2019-04-05
Title: Densely charged catenanes

20. **Serial No**.: PCT/US2019/027713
Inventors: I. Roy, J.F. Stoddart
Filing Date: 2019-04-16
Title: Cyclophanes for live-cell imaging

ISSUED FOREIGN PATENTS

1. Compounds and Methods to Isolate Gold (D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart).
Issue date: 2018-10-11. Country: Australia Patent number: 2014253728.
2. Carbohydrate-Mediated Purification of Petrochemicals (K. Hartlieb, J. Holcroft, J.F.Stoddart).
Issue date: 2018-11-07. Country: EPO Patent number: EP 3077104.
3. Compounds and Methods to Isolate Gold (D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart).
Issue date: 2019-04-03. Country: Armenia Patent number: EUR 024977.
4. Compounds and Methods to Isolate Gold (D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart).
Issue date: 2019-04-03. Country: Azerbaijan Patent number: EUR 024977.
5. Compounds and Methods to Isolate Gold (D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart).
Issue date: 2019-04-03. Country: Belarus Patent number: EUR 024977.
6. Compounds and Methods to Isolate Gold (D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart).
Issue date: 2019-04-03. Country: Kazakhstan Patent number: EUR 024977.
7. Compounds and Methods to Isolate Gold (D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart).
Issue date: 2019-04-03. Country: Kyrgyzstan Patent number: EUR 024977.
8. Compounds and Methods to Isolate Gold (D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart).
Issue date: 2019-04-03. Country: Russia Patent number: EUR 024977.
9. Compounds and Methods to Isolate Gold (D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart).
Issue date: 2019-04-03. Country: Tajikistan Patent number: EUR 024977.
10. Compounds and Methods to Isolate Gold (D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart).
Issue date: 2019-04-03. Country: Turkmenistan Patent number: EUR 024977.
11. Compounds and Methods to Isolate Gold (D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart).
Issue date: 2019-04-03. Country: Eurasia Patent number: EUR 024977.
12. Tetracationic Cyclophanes and Their Use in the Sequestration of Polyaromatic Hydrocarbons by Way of Complexation (J. Barnes, M. Juricek, J.F. Stoddart).
Issue date: 2016-08-28. Country: Saudi Arabia Patent number: SA 5024.

PENDING FOREIGN PATENT APPLICATIONS

1. **Serial No**.: EP 13866011.3
Country: EPO
Inventors: J. F. Stoddart, J. C. Barnes, M. Juríček
Filing Date: 2015-06-24
Title: Tetracationic cyclophanes and their use in the sequestration of polyaromatic hydrocarbons by way of

complexation

2. **Serial No**.: CA 2,909,203
   Country: Canada
   Inventors: D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart
   Filing Date: 2015-10-08
   Title: Compounds and Methods to Isolate Gold

3. **Serial No**.: PH 1-2015-502366
   Country: Philippines
   Inventors: D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart
   Filing Date: 2015-10-02
   Title: Compounds and Methods to Isolate Gold

4. **Serial No**.: PERU 002159-2015/DIN
   Country: Peru
   Inventors: D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart
   Filing Date: 2015-10-15
   Title: Compounds and Methods to Isolate Gold

5. **Serial No**.: CN 201480023847.X
   Country: China
   Inventors: D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart
   Filing Date: 2015-10-27
   Title: Compounds and Methods to Isolate Gold

6. **Serial No**.: EP 14785085.3
   Country: EPO
   Inventors: D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart
   Filing Date: 2015-11-04
   Title: Compounds and Methods to Isolate Gold

7. **Serial No**.: UZ IAP20150425
   Country: Uzbekistan
   Inventors: D. Cao, M. Frasconi, Z. Liu, J.F. Stoddart
   Filing Date: 2015-11-04
   Title: Compounds and Methods to Isolate Gold

8. **Serial No**.: CN 201780025678.7
   Country: China
   Inventors: Z. Liu, S. Nalluri, J.F. Stoddart
   Filing Date: 2017-03-16
   Title: Rigid Chiral Redox-Active Isosceles Triangular Materials

9. **Serial No**.: SA 517382329
   Country: Saudi Arabia
   Inventors: A.-J. Avestro, D. Chen, Z. Erno, J.F. Stoddart, J. Sun
   Filing Date: 2017-09-17
   Title: Rigid Napthalenediimide Triangle Structures

10. **Serial No**.: ARAB EMIRATES P60011
    Country: Arab Emirates
    Inventors: A.-J. Avestro, D. Chen, Z. Erno, J.F. Stoddart, J. Sun
    Filing Date: 2017-09-19
    Title: Rigid Napthalenediimide Triangle Structures

11. **Serial No**.: EP16765820.2
Country: EPO
Inventors: A.-J. Avestro, D. Chen, Z. Erno, J.F. Stoddart, J. Sun
Filing Date: 2017-10-27
Title: Rigid Napthalenediimide Triangle Structures

12. **Serial No**.: CN 201680028163.8
Country: China
Inventors: A.-J. Avestro, D. Chen, Z. Erno, J.F. Stoddart, J. Sun
Filing Date: 2017-11-15
Title: Rigid Napthalenediimide Triangle Structures

13. **Serial No**.: SA 518392119
Country: Saudi Arabia
Inventors: D. Ferris, K. Hartlieb, J. Holcroft, J.F. Stoddart
Filing Date: 2018-07-31
Title: Uptake of Pharmaceuticals within Cyclodextrin-based Porous Materials

14. **Serial No**.: CN 201780015076.3
Country: China
Inventors: M. Frasconi, J.F. Stoddart, J. Sun, Y. Wang
Filing Date: 2018-09-04
Title: Viologen-Based Rotaxanes

15. **Serial No**.: SA 518400208
Country: Saudi Arabia
Inventors: V. Dravid, D. Ferris, D. Hong, K.A. Hujsak, M. Owczarek, A. Prokofjevs, J.F. Stoddart
Filing Date: 2018-10-10
Title: Flexible Piezoelectric and Antiferroelectric Haloimidazole Crystals

16. **Serial No**.: SA 518400208
Country: Saudi Arabia
Inventors: V. Dravid, D. Ferris, D. Hong, K.A. Hujsak, M. Owczarek, A. Prokofjevs, J.F. Stoddart
Filing Date: 2018-10-10
Title: Flexible Piezoelectric and Antiferroelectric Haloimidazole Crystals

17. **Serial No**.: EP 17783042.9
Country: EPO
Inventors: V. Dravid, D. Ferris, D. Hong, K.A. Hujsak, M. Owczarek, A. Prokofjevs, J.F. Stoddart
Filing Date: 2018-11-12
Title: Flexible Piezoelectric and Antiferroelectric Haloimidazole Crystals

18. **Serial No**.: CN 201780031574.7
Country: China
Inventors: V. Dravid, D. Ferris, D. Hong, K.A. Hujsak, M. Owczarek, A. Prokofjevs, J.F. Stoddart
Filing Date: 2018-11-22
Title: Flexible Piezoelectric and Antiferroelectric Haloimidazole Crystals

19. **Serial No**.: TO BE PROVIDED
Country: China
Inventors: K. Hartlieb, J. Holcroft, J.F. Stoddart
Filing Date: TO BE PROVIDED
Title: Carbohydrate-Mediated Purification of Petrochemicals

20. **Serial No**.: CN201680072938.1

Country: China
Inventors: D. Ferris, K. Hartlieb, J. Holcroft, J.F. Stoddart
Filing Date: TO BE PROVIDED
Title: Uptake of Pharmaceuticals within Cyclodextrin-based Porous Materials

21. **Serial No**.: EP 16865255.0
Country: EPO
Inventors: D. Ferris, K. Hartlieb, J. Holcroft, J.F. Stoddart
Filing Date: TO BE PROVIDED
Title: Uptake of Pharmaceuticals within Cyclodextrin-based Porous Materials

22. **Serial No**.: TO BE ASSIGNED
Country: Saudi Arabia
Inventors: Z. Liu, S. Nalluri, J.F.Stoddart
Filing Date: TO BE PROVIDED
Title: Rigid Chiral Redox-Active Isosceles Triangular Materials