

Tony K. M. Shing's Publication List

- 1 W. G. Overend, P. M. Collins, and T. Shing, "A synthesis of 3-deoxy-D-manno-octulosonic acid (KDO)," *J. Chem. Soc., Chem. Commun.*, 1981, 1139.
- 2 P. M. Collins, W. G. Overend, and T. Shing "A comparison of the Wittig and Knoevenagel-Doebner reactions for chain extension of aldoses." *J. Chem. Soc., Chem. Commun.*, 1982, 297.
- 3 T. K. M. Shing, P. Dais and A.S. Perlin, "Proton spin-lattice relaxation rates and nuclear Overhauser enhancement , in relation to the stereochemistry of β -D-mannopyranose 1,2-orthoacetates," *Carbohydr. Res.*, 1983, **122**, 305.
- 4 T. K. M. Shing and A. S. Perlin," Synthesis of benzyl 4-O- β -D-glucopyranosyl-2-azido-2-deoxy- β -D-glucopyranoside, and 4-O- β -D-glucopyranosyl-1,6-anhydro-2-azido-2-deoxy-D-glucopyranose," *Carbohydr. Res.*, 1984, **130**, 65.
- 5 P. Dais, T. K. M. Shing, and A. S. Perlin, "A study of disaccharide conformation by measurements of nuclear Overhauser enhancement, relaxation rates, and ^{13}C - ^1H coupling: 1,6-anhydro- β -cellobiose hexaacetate," *J. Am. Chem. Soc.*, 1984, **106**, 3082.
- 6 G. W. J. Fleet and T. K. M. Shing, "An entry to chiral cyclohexenes from carbohydrates: a short, efficient, and enantiospecific synthesis of (-)-shikimic acid from D-mannose," *J. Chem. Soc., Chem. Commun.*, 1983, 849.
- 7 G. W. J. Fleet and T. K. M. Shing, "Enantiospecific synthesis of (3-S-hydroxy-2-S-methyl)butyltriphenyl phosphonium iodide, a precursor for the side chain of Pseudomonic acid C," *Tetrahedron Lett.*, 1983, 3657.
- 8 G. W. J. Fleet, T. K. M. Shing and M. J. Gough, "Enantiospecific total synthesis of Pseudomonic acids from arabinose," *Tetrahedron Lett.*, 1983, 3661.
- 9 G. W. J. Fleet, T. K. M. Shing and S. W. Warr, "Enantiospecific synthesis of shikimic acid from D-mannose, formation of a chiral cyclohexene by intramolecular olefination of a carbohydrate-derived intermediate," *J. Chem. Soc., Perkin Trans. I*, 1984, 905.
- 10 G. W. J. Fleet and T. K. M. Shing, " An approach to the enantiospecific syntheses of sesbanimide and its enantiomer from D-glucose," *J. Chem. Soc., Chem. Commun.*, 1984, 835.
- 11 G. W. J. Fleet, T. K. M. Shing and M. J. Gough, "Syntheses of 1,5-dideoxy-1,5-imino-D-mannitol from D-mannose and from D-glucose," *Tetrahedron Lett.*, 1984, 1465.
- 12 T. K. M. Shing et. al., "Lack of glycosidase inhibition by, and isolation from Xanthoceras zambesiaca (Leguminosae) of, 4-O-(β -D-glucopyranosyl)-fagomine, a novel glucoside of a polyhydroxylated piperidine alkaloid," *Tetrahedron Lett.*, 1985, 1465.
- 13 S. V. Evans, L. E. Fellows, T. K. M. Shing and G. W. J. Fleet, "Glycosidase inhibition by plant alkaloids which are structural analogues of monosaccharides," *Phytochem.*, 1985, **24**, 1953.
- 14 G. W. J. Fleet, S. V. Evans, R.T. Aplin, L. E. Fellows and T. K. M. Shing, "Sulphate ester of *trans*-4-hydroxypipelic acid in seeds of *Peltophorum*," *Phytochem.*, 1985, **24**, 2593.

Independent Research Papers from 1984

The applicant has been conducting independent research since joining The University of Manchester as a "New Blood" lecturer in September 1984.

- 15 T. K. M. Shing, "Oblongolide: synthesis and absolute configuration," *J. Chem. Soc., Chem. Commun.*, 1986, 49.
- 16 T. K. M. Shing, "A short and practical synthesis of (2S,5R)-bishydroxymethyl-(3R,4R)-bishydroxypyrrolidine," *J. Chem. Soc., Chem. Commun.*, 1987, 262.
- 17 T. K. M. Shing and P. Lloyd-Williams, "Arabinose-derived auxiliaries in asymmetric Diels-Alder reactions," *J. Chem. Soc., Chem. Commun.*, 1987, 423.
- 18 J. D. Bulock, C. I. F. Watt and T. K. M. Shing, "The retro-Sheldrake effect," *Chem. Brit.* 1988, **24**, 427-428.
- 19 T. K. M. Shing and J. G. Gillhouley, "Enantiospecific syntheses of (+)- and (-)-Altholactone (Goniothalenol)," *J. Chem. Soc., Chem. Commun.*, 1988, 976.
- 20 T. K. M. Shing, "Enantiospecific synthesis of D-mannono- δ -lactam from Vitamin C," *J. Chem. Soc., Chem. Commun.*, 1988, 1221.
- 21 T. K. M. Shing and M. Aloui, "The stereochemistry of the epoxypropyl side-chain of Asperlin," *J. Chem. Soc., Chem. Commun.*, 1988, 1525.
- 22 T. K. M. Shing, "Synthesis of (2S,5S)-bishydroxymethyl-(3R,4R)-bishydroxypyrrolidine from D-mannitol," *Tetrahedron*, 1988, 7261.
- 23 A. Khodabocus, T. K. M. Shing, J. K. Sutherland, and J. G. Williams, "Substituent control of stereochemistry in the divinylketene-cyclohexadienone cyclisation," *J. Chem. Soc., Chem. Commun.*, 1989, 783.
- 24 T. K. M. Shing, Ying Tang and J. F. Malone, "An expeditious and enantioselective entry to the ABC ring of the Quassinoïd skeleton," *J. Chem. Soc., Chem. Commun.*, 1989, 1294.
- 25 T. K. M. Shing, D. A. Elsley, and J. G. Gillhouley, "A rapid entry to carbocycles from carbohydrates via intramolecular nitrone cycloaddition," *J. Chem. Soc., Chem. Commun.*, 1989, 1280.
- 26 T. K. M. Shing and Y. Tang, "Enantiospecific synthesis of 2-crotonyloxymethyl-(4R,5R,6R)-4,5,6-trihydroxycyclohex-2-enone (COTC) from quinic acid," *J. Chem. Soc., Chem. Commun.*, 1990, 312.
- 27 T. K. M. Shing and Y. Tang, "Synthetic study towards the tetracyclic quassinoïd skeleton," *Tetrahedron*, 1990, 2187.
- 28 T. K. M. Shing and Y. Tang, "A new approach to pseudo-sugars from (-)-quinic acid: facile syntheses of pseudo- β -D-mannopyranose and pseudo- β -D-fructopyranose," *J. Chem. Soc., Chem. Commun.*, 1990, 748.
- 29 T. K. M. Shing and M. Aloui, "Enantiospecific synthesis of (6R,7S)-diastereoisomer of asperlin from D-glucose," *Can. J. Chem.*, 1990, **68**, 1035.

- 30 T. K. M. Shing and Y. Tang, "(-)-Quinic Acid in Organic Synthesis. 1. A Facile Synthesis of 2-crotonyloxymethyl-(4R,5R,6R)-4,5,6-trihydroxycyclohex-2-enone," *Tetrahedron*, 1990, 6575.
- 31 T. K. M. Shing, Yu-xin Cui and Y. Tang, "Facile syntheses of pseudo- α -D-glucopyranose and pseudo- α -D-mannopyranose," *J. Chem. Soc., Chem. Commun.*, 1991, 756.
- 32 O. Aghil, M. C. Bibby, S. J. Carrington, J. Double, K. T. Douglas, R. M. Phillips, T. K. M. Shing, "Synthesis and cytotoxicity of shikimate analogues. Structure:activity studies based on 1-crotonyloxymethyl-3R,4R,5R-trihydroxycyclohex-2-enone", *Anti-Cancer Drug Design.*, 1992, 7, 67.
- 33 T. K. M. Shing and Y. Tang, "(-)-Quinic Acid in Organic Synthesis. 2. Facile Syntheses of pseudo- β -D-mannopyranose and pseudo- β -D-fructopyranose", *Tetrahedron*, 1991, 4571.
- 34 T. K. M. Shing, Yu-xin Cui and Y. Tang, "(-)-Quinic Acid in Organic Synthesis. 3. "Stereocontrolled Syntheses of pseudo- α -D-glucopyranose and pseudo- α -D-mannopyranose", *Tetrahedron*, 1992, 2349.
- 35 T. K. M. Shing and Y. Tang, "A Stereocontrolled and Enantioselective Synthesis of the Tetracyclic Quassinoïd Skeleton," *J. Chem. Soc., Chem. Commun.*, 1992, 341.
- 36 T. K. M. Shing, H-C Tsui, Z-H Zhou and T. C. W. Mak , "Stereoselective Syntheses of 2,4:5,6-Di-O-isopropylidene-1-C-phenyl-D-glycero-D-ido-hexitol and 2,4:5,6-Di-O-isopropylidene-1-C-phenyl-D-glycero-D-gulo-hexitol from D-glycero-D-gulo-Heptono-g-lactone. X-Ray structure of 1-O-acetyl-2,4:5,6-Di-O-isopropylidene-1-C-phenyl-D-glycero-D-ido-hexitol," *J. Chem. Soc., Perkin Trans. I*, 1992, 887.
- 37 T. K. M. Shing and H-C Tsui, "Goniofufurone: Synthesis and Absolute Configuration," *J. Chem. Soc., Chem. Commun.*, 1992, 432.
- 38 T. K. M. Shing, "Simple Syntheses of 3,4-Dideoxy-oct-2-ulosonic Acids", *Tetrahedron Lett.*, 1992, 1307.
- 39 T. K. M. Shing and Z-H Zhou, "Goniotriol and 8-Acetylgoniotriol: Syntheses and Absolute Configuration", *Tetrahedron Lett.*, 1992, 3333.
- 40 T. K. M. Shing, H-C Tsui, and Z-H Zhou, "Total Synthesis of Antitumour Agent (+)-Goniofufurone," *J. Chem. Soc., Chem. Commun.*, 1992, 810.
- 41 T. K. M. Shing, Z.-H. Zhou, and H.-C. Tsui, "Stereocontrolled Syntheses of (-)-Goniofufurone and (-)-8-*epi*-Goniofufurone," *Tetrahedron*, 1992, 8659.
- 42 T. K. M. Shing, Z-H Zhou and T. C. W. Mak , "Stereoselective Syntheses of (-)-Goniotriol and (-)-8-Acetylgoniotriol from D-glycero-D-gulo-Heptono-g-lactone" *J. Chem. Soc., Perkin Trans. 1*, 1992, 1907.
- 43 T. K. M. Shing, "Enantiospecific Syntheses of 3,4-Dideoxy-oct-2-ulosonic Acids", *Tetrahedron*, 1992, 6777.
- 44 T. K. M. Shing, H-C Tsui, and Z-H Zhou, "First Total Synthesis of Potent Antitumour Agent (+)-Goniopyprone," *Tetrahedron Lett.*, 1993, 691.
- 45 T. K. M. Shing, M. Look and Y. M. Choy, "Antitumour Effect of Chemically Synthesized (+)-Goniopyprone", *Cancer Chemotherapy*, 1993, 39, 132.
- 46 T. K. M. Shing and V. W.-F. Tai, "Facile syntheses of cyclophellitol and its (1R,6S)-, (1R, 2S, 6S)-, (2S)-diastereoisomers from (-)-quinic acid," *J. Chem. Soc., Chem. Commun.*, 1993, 995.

- 47 T. K. M. Shing, K. H. Gibson, Jonathan R. Wiley and C. I. F. Watt, "First Total Synthesis of a Barnacle Hatching Factor 8(*R*)-Hydroxy-eicosa-5(*Z*),9(*E*),11(*Z*), 14(*Z*),17(*Z*)-pentaenoic acid" *Tetrahedron Lett.*, 1994, **35**, 1067.
- 48 T. K. M. Shing, W.-C. Fung and C.-H. Wong, "Ring-selective Syntheses of Homochiral Oxepanes and Tetrahydropyrans from carbohydrates via Intramolecular Nitrone or Nitrile Oxide Cycloadditions", *J. Chem. Soc., Chem. Commun.*, 1994, 449.
- 49 T. K. M. Shing and J. G. Gillhouley, "Enantiospecific Synthesis of (+)-Altholactone and its Three Stereoisomers", *Tetrahedron*, 1994, **50**, 8685.
- 50 T. K. M. Shing and V. W.-F. Tai, "(-)-Quinic Acid in Organic Synthesis. Part 4. Syntheses of Cyclophellitol and its (1*R*,6*S*)-, (2*S*)-, (1*R*, 2*S*, 6*S*)-Diastereoisomers," *J. Chem. Soc., Perkin Trans. 1*, 1994, 2017.
- 51 T. K. M. Shing and Y. Tang, "Synthesis of Optically Active Tetracyclic Quassinoi^d Skeleton," *J. Chem. Soc., Perkin Trans. 1*, 1994, 1625.
- 52 T. K. M. Shing, V. W.-F. Tai and H.-C. Tsui, "Goniobutenolides A and B: Serendipitous Syntheses, Relative and Absolute Configuration," *J. Chem. Soc., Chem. Commun.*, 1994, 1293.
- 53 T. K. M. Shing and H.-C. Tsui, "Enantiospecific Syntheses of (3*S*,4*R*)- and (3*S*,4*R*,7*S*)- Diastereoisomers of Goniofufurone," *Tetrahedron: Asymmetry*, 1994, **35**, 1269.
- 54 T. K. M. Shing and C.-H. Wong, "An Enantiospecific Approach to an Oxepane related to Zoapatanol via a 1,3-Dipolar Cycloaddition," *Tetrahedron: Asymmetry*, 1994, **35**, 1151.
- 55 V. W.-F. Tai, P.-H. Fung, Y.-S. Wong and T. K. M. Shing, "Synthesis and Glycosidase-inhibitory Activity of Cyclophellitol Analogues", *Tetrahedron: Asymmetry*, 1994, 1353.
- 56 T. K. M. Shing, "A Synthesis of 3-Deoxy-D-gluco-oct-2-ulosonic Acid," *Tetrahedron: Asymmetry*, 1994, **35**, 1688.
- 57 T. K. M. Shing, V. W.-F. Tai and E. K. W. Tam, "A Practical and Flash Vicinal Hydroxylation of Alkenes by Catalytic Ruthenium Tetraoxide", *Angew Chemie* 1994, **106**, 2408; *Angew Chem. Int. Ed. Engl.* 1994, **33**, 2312.
- 58 T. K. M. Shing and J. Yang, "A Synthesis of (+)-Oblongolide" *J. Chin. Chem. Soc.*, 1995, **42**, 713.
- 59 T. K. M. Shing, H.-C. Tsui and Z-H Zhou, "Enantiospecific Syntheses of (+)-Goniofufurone, (+)-7-epi-Goniofufurone, (+)-Goniobutenolide A, (-)-Goniobutenolide B, (+)-Goniopyrrone, (+)-Altholactone, (+)-Goniotriol, (+)-7-Acetylgoniotriol", *J. Org. Chem.*, 1995, **60**, 3121.
- 60 T. K. M. Shing and V. W.-F. Tai, "Enantiospecific Syntheses of Penta-*N,O*-acetyl-validamine and Penta-*N,O*-acetyl-2-*epi*-validamine", *J. Org. Chem.*, 1995, **60**, 5332.
- 61 T. K. M. Shing and L. H. Wan, "Enantiospecific Syntheses of Valiolamine and its (1*R*), (2*S*)-, (1*R*,2*S*)- Diastereoisomers from (-)-Quinic Acid," *Angew Chem. Int. Ed. Engl.* 1995, **34**, 1643.
- 62 V. W.-F. Tai, P.-H. Fung, Y.-S. Wong and T. K. M. Shing, "Kinetic Studies on Cyclophellitol Analogues - Mechanism-Based Inactivators", *Biochem. Biophys. Res. Commun.*, 1995, **213**, 175.

- 63 T. K. M. Shing and J. Yang, "A Short Synthesis of Natural (-)-Oblongolide via an Intramolecular or a Transannular Diels-Alder Reaction" *J. Org. Chem.*, 1995, **60**, 5785.
- 64 T. K. M. Shing, E. K. W. Tam, V. W.-F. Tai, I. H. F. Chung, and Q. Jiang, "Ruthenium Catalyzed *cis*-Dihydroxylation of Alkenes: Scope and Limitations", *Chemistry - A European Journal*, 1996, **2**, 50.
- 65 T. K. M. Shing and E. K. W. Tam, "First Enantiospecific Syntheses of Crotepoxyde and *iso*-Crotepoxyde from (-)-Quinic Acid", *Tetrahedron: Asymmetry*, 1996, **7**, 353.
- 66 T. K. M. Shing, X. Y. Zhu and T. C. W. Mak, "Synthetic Studies towards Pentacyclic Quassinooids: Facile and Stereocontrolled Construction of the E Ring", *Tetrahedron: Asymmetry*, 1996, **7**, 673.
- 67 T. K. M. Shing, H.-F. Chow, and I. H. F. Chung, "Sugarometallic Chemistry: Aglycone-chromium Complex as Chiral Auxiliary in Asymmetric Diels-Alder Reaction", *Tetrahedron Lett.* 1996, **37**, 3713.
- 68 T. K. M. Shing, C.-H. Wong and T. Yip, "Synthetic Studies on Zoapatanol: Construction of Oxepanes via an Intramolecular 1,3-Dipolar Cycloaddition Strategy", *Tetrahedron: Asymmetry*, 1996, **7**, 1323.
- 69 T. K. M. Shing, X. Y. Zhu and T. C. W. Mak, "Expeditious and Enantiospecific Avenue to Pentacyclic Quassinooid Skeleton", *J. Chem. Soc., Chem. Commun.*, 1996, 2369.
- 70 T. K. M. Shing and L. H. Wan, "Facile Syntheses of Valiolamine and its Diastereomers from (-)-Quinic Acid. Nucleophilic Substitution Reactions of 5-Hydroxymethyl- cyclohexane-1,2,3,4,5-pentol" *J. Org. Chem.* 1996, **61**, 8468.
- 71 T. K. M. Shing and L.-H. Li, "Asymmetric Hosomi-Sakurai Reaction of Allylsilanes Containing Arabinose-derived Alcohols as Chiral Auxiliaries" *J. Org. Chem.* 1997, **62**, 1230.
- 72 T. K. M. Shing, L.-H. Li, and K. Narkunan, "Mitsunobu C-Alkylation of Meldrum's Acids", *J. Org. Chem.* 1997, **62**, 1617.
- 73 Y.-L. Zhong and T. K. M. Shing, "Efficient and Facile Glycol Cleavage Oxidation Using Improved Silica Supported NaIO₄" *J. Org. Chem.* 1997, **62**, 2622.
- 74 T. K. M. Shing, Y.-L. Zhong, T. C. W. Mak, R.-J. Wang and F. Xue, "Acyclic Stereodifferentiation: Selective Construction of Tetrahydropyran/Oxepane via Intramolecular Nitrone-Alkene Cycloaddition of Acyclic 3-O-Allylmonosaccharides" *J. Org. Chem.* 1998, **63**, 414.
- 75 T. K. M. Shing and E. K. W. Tam, "Enantiospecific Syntheses of (+)-Crotepoxyde, (+)-Boesenoxide, (+)-*b*-Senepoxide, (+)-Pipoxide Acetate, (-)-*iso*-Crotepoxyde, (-)-Senepoxide, and (-)-Tingtanoxide from (-)-Quinic Acid", *J. Org. Chem.* 1998, **63**, 1547 .
- 76 T. K. M. Shing, Q. Jiang, and, T. C. W. Mak, "Total Synthesis of (+)-Quassin from (+)-Carvone" *J. Org. Chem.* 1998, **63**, 2056.
- 77 T. K. M. Shing and E. K. W. Tam, "Solvent Effect on Ruthenium Catalyzed Dihydroxylation" *Tetrahedron Lett.* 1999, **37**, 2179.
- 78 T. K. M. Shing, H. Y. Lo, and, T. C. W. Mak, "Diels-Alder Reaction of *R*-(-)-Carvone with Isoprene", *Tetrahedron*, 1999, 4643.

- 79 T. K. M. Shing, T. Y. Li and S. H.-L. Kok, "Enantiospecific Syntheses of Valienamine and 2-*epi*-Valienamine", *J. Org. Chem.*, 1999, **64**, 1941.
- 80 T. K. M. Shing and V. W.-F. Tai, "Facile and Enantiospecific Syntheses of Goniotriol Analogues", *J. Org. Chem.*, 1999, **64**, 2140.
- 81 T. K. M. Shing and Q. Jiang, "Total Synthesis of (+)-Quassin", *J. Org. Chem.* 2000, **65**, 7059-7069.
- 82 S. H.-L. Kok and T. K. M. Shing, "A New Synthetic Approach towards N-Alkylated 2-*epi*-Valienamines via Palladium-catalyzed Coupling Reaction", *Tetrahedron Lett.* 2000, **41**, 6865-6868.
- 83 T. K. M. Shing and Y.-L. Zhong, "Ring-selective Synthesis of *O*-Heterocycles from Acyclic 3-*O*-Allyl-monosaccharides via Intramolecular Nitrone-Alkene Cycloaddition" *Tetrahedron*, 2001, **57**, 1573-1579.
- 84 Q. Jiang and T. K. M. Shing, "Synthetic Studies on Quassimarin and Simalikalactone D: Functionalization of Ring C", *Tetrahedron Lett.* 2001, **42**, 5271-5273.
- 85 T. K. M. Shing, C. M. Lee, H. Y. Lo, "Synthesis of the CD ring in taxol from (*S*)-(+)carvone" *Tetrahedron Lett.* 2001, **42**, 8361-8363.
- 86 S. H.-L. Kok, C. C. Lee, T. K. M. Shing, "A New Synthesis of Valienamine", *J. Org. Chem.*, 2001, **66**, 7184-7190.
- 87 T. K. M. Shing and G. Y. C. Leung, "Asymmetric Epoxidation Catalyzed by D-Glucose-derived Uloses" *Tetrahedron*, 2002, **58**, 7545-7552.
- 88 T. K. M. Shing, Y. C. Leung and K. W. Yeung, "Catalytic Asymmetric Epoxidation of Alkenes with Arabinose-derived Uloses" *Tetrahedron*, 2003, **59**, 2159-2168.
- 89 T. K. M. Shing, Y. C. Leung and K. W. Yeung, "Catalytic Enantioselective Epoxidation with Arabinose-derived Uloses containing Tunable Steric Sensors" *Tetrahedron Lett.*, 2003, **44**, 9225-9228.
- 90 T. K. M. Shing, X. Y. Zhu, and Y. Y. Yeung, "Studies towards Simalikalactone D and Quassimarin: Construction of an Advanced Pentacyclic Intermediate" *Chem. Eur. J.*, 2003, **9**, 5489-5500.
- 91 T. K. M. Shing, C. M. Lee, H. Y. Lo, "A synthetic approach toward taxol analogs: studies on the construction of the CD ring" *Tetrahedron*, 2004, **60**, 9179-9197.
- 92 T. K. M. Shing, C. S. K. Kwong, A. W. C. Cheung, S. H.-L. Kok, Z. Yu, J. Li, and C. H. K. Cheng "Facile, Efficient, and Enantiospecific Syntheses of 1,1'-*N*-linked-pseudodisaccharides as a New Class of Glycosidase Inhibitors." *J. Am. Chem. Soc.* 2004, **126**, 15990-15992.
- 93 T. K. M. Shing, G. Y. C. Leung, and T. Luk "Arabinose-Derived Ketones as Catalysts for Asymmetric Epoxidation of Alkenes" *J. Org. Chem.* 2005, **70**, 7279-7289.
- 94 T. K. M. Shing and Y. Y. Yeung, "Total Synthesis of (-)-Samaderine Y from (*S*)-(+)Carvone" *Angew. Chem. Int. Ed.* 2005, **44**, 7981-7984.
- 95 T. K. M. Shing, A. W. F. Wong, T. Ikeno, and T. Yamada, " Experimental and Theoretical Studies on Stereo- and Regioselectivity in Intramolecular Nitrone-Alkene Cycloaddition of Hept-6-enoses Derived from Carbohydrates", *J. Org. Chem.* 2006, **71**, 3253-3263.

- 96 T. K. M. Shing and Y.-L. Zhong, "Syntheses of Medium-sized Cyclic Ethers from Carbohydrates via an Intra-molecular Nitrile Oxide-Alkene Cycloaddition Strategy", *Synlett.* 2006, 1205-1208.
- 97 T. K. M. Shing, T. Luk, and C. M. Lee, "Asymmetric epoxidation of *cis*-alkenes with arabinose-derived ketones: enantioselective synthesis of the side chain of Taxol" *Tetrahedron*, 2006, **62**, 6621-6629.
- 98 T. K. M. Shing, Y.-Y. Yeung, and P. L. Su, "Mild Manganese(III) Acetate Catalyzed Allylic Oxidation: Application to Simple and Complex Alkenes", *Org. Lett.* 2006, **8**, 3149-3151.
- 99 T. K. M. Shing and Y.-Y. Yeung, "Synthetic Studies towards Pentacyclic Quassinooids: Total Synthesis of Unnatural (-)-14-*epi*-Samaderine E and Natural (-)-Samaderine Y from (*S*)-(+)-Carvone" *Chem. Eur. J.*, 2006, **12**, 8367-8377.
- 100 T. K. M. Shing, W. F. Wong, T. Ikeno, and T. Yamada, "Trans-acetonide Controlled *endo*-Selective Intramolecular Nitrone-Alkene Cycloaddition of Hept-6-enoses: A Facile Entry to Calystegines, Tropanes, and Hydroxylated Aminocycloheptanes", *Org. Lett.* 2007, **9**, 207-209.
- 101 X. Ye, X. Gu, X. G. Gong, T. K. M. Shing, and Z. F. Liu, "A nanocontainer for the storage of hydrogen" *Carbon*, 2007, **45**, 315-320.
- 102 T. K. M. Shing, W. F. Wong, H. M. Cheng, W. S. Kwok, and K. H. So, "Intramolecular Nitrile Oxide-Alkene Cycloaddition of sugar derivatives with unmasked hydroxyl group(s)", *Org. Lett.* 2007, **9**, 753-756.
- 103 T. K. M. Shing and H. M. Cheng, "Short Syntheses of Gabosine G and I from δ -D-Gluconolactone", *J. Org. Chem.* 2007, **72**, 6610-6613.
- 104 T. K. M. Shing, H. M. Cheng, W. F. Wong, C. S. K. Kwong, J. Li, C. B. S. Lau, P. S. Leung, and C. H. K. Cheng, "Enantiospecific Synthesis of Pseudoacarvision as a Potential Antidiabetic Agent", *Org. Lett.* 2008, **10**, 3145-3148.
- 105 T. K. M. Shing and H. M. Cheng, "Intramolecular Direct Aldol Reactions: Syntheses of Valiolamine and Validoxylamine G", *Org. Lett.* 2008, **10**, 4137-4139.
- 106 T. K. M. Shing, W. F. Wong, T. Ikeno and T. Yamada, "Stereo- and Regioselectivity in an Intramolecular Nitrone-Alkene Cycloaddition of Hept-6-enoses with a trans-Acetonide Blocking Group" *Chem. Eur. J.*, 2009, **15**, 2693-2707.
- 107 T. K. M. Shing and T. Luk, "Catalytic asymmetric epoxidation of alkenes with arabinose-derived ketones containing a cyclohexane-1,2-diacetal", *Tetrahedron: Asymmetry*, 2009, **20**, 883-886.
- 108 T. K. M. Shing, K. H. So and W. S. Kwok, "Carbocyclization of Carbohydrates: Diastereoselective Synthesis of (+)-Gabosine F, (-)-Gabosine O, and (+)-4-*epi*-Gabosine O", *Org. Lett.*, 2009, **11**, 5070-5073.
- 109 T. K. M. Shing and H. M. Cheng, "Facile Syntheses of (+)-Gabosines A, D, and E", *Org. Biomol. Chem.*, 2009, **7**, 5098-5102.
- 110 T. K. M. Shing and H. M. Cheng, "The Structure and Stereochemistry of Gabosine K: Syntheses of 7-*O*-Acetylstreptol and 7-*O*-Acetyl-1-*epi*-streptol", *Synlett*, 2010, **21**, 142-144.

- 111 T. K. M. Shing and H. M. Cheng, "An Alternative Synthesis of 1,1'-bis-Valienamine from D-Glucose", *J. Org. Chem.* 2010, **75**, 3522-3525.
- 112 T. K. M. Shing, Y. Chen and W.-L. Ng, "Short and Efficient Syntheses of Gabosine I, Streptol, 7-O-Acetyl-streptol, 1-*epi*-Streptol, Gabosine K, and Carba- α -D-glucose from δ -D-Gluconolactone", *Synlett*, 2011, **22**, 1318-1319.
- 113 T. K. M. Shing and K. H. So, "Facile and Enantiospecific Syntheses of (6*S*,7*R*)-6-Chloro-7-benzyloxy-, (7*S*)-Halo-, (7*S*)-Hydroxy-cocaine and Natural (-)-Cocaine from D-(-)-Ribose" *Org. Lett.*, 2011, **13**, 2916-2919.
- 114 T. K. M. Shing, Y. Chen and W.-L. Ng, "Carbocyclization of D-Glucose: Syntheses of Gabosine I and Streptol", Shing, T. K. M.; Chen, Y.; Ng, W. L. *Tetrahedron*, 2011, **67**, 6001-6005.
- 115 C.-H. Wang, H.T. Wu, H. M. Cheng, T.-J. Yen, I-H. Lu, H. C. Chang, S.-C. Jao, T.K.M.. Shing, W.-S. Li, "Inhibition of Glutathione S-Transferase M1 by New Gabosine Analogues Is Essential for Overcoming Cisplatin Resistance in Lung", *J. Med. Chem.* 2011, **54**, 8574-8581.
- 116 T. K. M. Shing, Y. Chen and Ho T. Wu, "Serendipitous Synthesis and Configurational Assignment of (-)-Gabosine J", *Synlett*, 2012, **23**, 1793-1796.
- 117 T.K.M. Shing, Ho T. Wu, H.F. Kwok and C. B. S. Lau, "Synthesis of chiral hydroxylated enones as potential anti-tumor agents", *Bioorg. Med. Chem Lett.* 2012, **22**, 7562-7565.
- 118 T.K.M. Shing, Wai-Lung Ng, J. Y.-W. Chan and C. B. S. Lau," Design, Syntheses, and SAR Studies of Carbocyclic Analogues of Sergliflozin as Potent Sodium-Dependent Glucose Cotransporter 2 Inhibitors", *Angew. Chem. Int. Ed.* 2013, **52**, 8401-8405.
- 119 T.K.M. Shing, A. W. H. Wong, H. Li, Z. F. Liu, and P. K. S. Chan, "Conformationally Locked Bicyclo[4.3.0]nonane Carbanucleosides: Synthesis and Bio-evaluation", *Org. Biomol. Chem.* 2014, **12**, 9439-9445.
- 120 T.K.M. Shing, Kwun W. Wu, Ho T. Wu, and Qicai Xiao, "Syntheses of arabinose-derived pyrrolidine catalysts and their applications in intramolecular Diels–Alder reactions", *Org. Biomol. Chem.* 2015, **13**, 1754-1762.
- 121 T.K.M. Shing, and Hau M. Cheng, "Intramolecular direct aldol reactions of sugar 2,7-diketones: syntheses of hydroxylated cycloalka(e)nones", *Org. Biomol. Chem.* 2015, **13**, 4795-4802.
122. Wai-Lung Ng, Kit-Man Lau, C. B.-S. Lau and T.K.M. Shing, "Palladium-Catalyzed Arylation of Carbasugars Enables the Discovery of Potent and Selective SGLT2 Inhibitors", *Angew. Chem. Int. Ed.* 2016, **55**, 13818-13821.
123. Wai-Lung Ng, Kit-Man Lau, C. B.-S. Lau and T.K.M. Shing, "Concise and Stereodivergent Synthesis of Carbasugars Reveals Unexpected Structure-Activity Relationship (SAR) of SGLT2 Inhibition" *Sci. Rep.* 2017, **7**, 5581.
124. L. Adak, S. Kawamura, G. Toma, T. Takenaka, K. Isozaki, H. Takaya, A. Orita, H. C. Li, T. K. M. Shing, and M. Nakamura, "Synthesis of Aryl C-Glycosides via Iron-Catalyzed Cross Coupling of Halosugars:

Stereoselective Anomeric Arylation of Glycosyl Radicals” *J. Am. Chem. Soc.*, 2017, **139** (31), 10693–10701.

125. W. H. Ng, T. K. M. Shing, Y.-Y. Yeung, “Mild and Efficient Vicinal Dibromination of Olefins Mediated by Aqueous Ammonium Fluoride”, *Synlett*, 2018, **29**(04), 419-424.

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