Using Facebook to Announce the Latest Glyco-related Research Articles

This year, FCCA started announcing the latest “glyco”-related articles released by publishers *via* Facebook. Carbohydrates are physically, biologically, and conceptually combined with other biomolecules and interact with their environment so that they cannot be often treated independently. This results in many carbohydrate-related research articles are published in a number of more general journals in various fields, which further makes access difficult. With our hope that a site introducing recently published papers would help researchers and students, we initiated this Facebook page.

We named our page “Forum Carbohydrate Coming of Age,” but initially it was difficult or almost impossible to find on the Web by searching through search engines. Thus, we applied a nickname “glycotrend” so that readers can find our page by searching for either “forum carbohydrate coming of age” or “glycotrend.”

As FCCA is a Japan-based non-profit group, we started this page in Japanese basically because of the tendency of Japanese to hesitate to access English pages despite the fact that we even know it is unavoidable to face English. We probably live in a country that makes it too easy for us to avoid English on a daily basis. This put us behind from the rest of the world, and so of course we should deal with this fact. However, since we tend to avoid facing such realities and instead tend to deal with the closer reality inside our country, we at FCCA decided to start this experiment in our own tongue but dealing with information from around the world. We hope this will prompt all of us to better face the world. We also hope, for now, that translation tools allow people from around the world to access our posts as well.

As a matter of fact, Google’s translation service translates the content of our posts into more than 80 languages. Access analysis showed that people from many countries had reached our posts and further clicked on the article introduced. By analyzing the coun-

tries from which readers made access, we were very pleased to find that people from around the world, including Japan of course (46%), but also Taiwan (20%), India (13%), United States (8%), Germany, Switzerland, Finland, United Kingdom, South Korea, China, Vietnam, Canada, Thailand, Spain, France, Sweden, Philippines, Denmark, Turkey, Australia, Belgium, Iran, Hong Kong, Portugal, Bangladesh, Indonesia, Singapore, Sudan, and Sri Lanka were reading our posts! If we look at people by age, readers could be broken down into the following groups, 18–24 (19%), 25–34 (40%), 35–44 (26%), and 45–54 (9%), which suggests fairness of our initial considerations.

We have posted more than 200 articles during the past six months. Among them, some has been paid considerably higher attention compared to others. These were highlighted as “viewers’ choice” on our site and are listed below.

1. A catalytic role for C–H/ π interactions in base excision repair by *Bacillus cereus* DNA glycosylase AlkD, Z.D. Parsons, J.M. Bland, E.A. Mullins, B.F. Eichman, *J. Am. Chem. Soc.*, doi: 10.1021/jacs.6b07399
2. A modular approach to a library of semi-synthetic fucosylated chondroitin sulfate polysaccharides with different sulfation and fucosylation patterns, A. Laezza, A. Iadonisi, A.V.A. Pirozzi, P. Diana, M. De Rosa, C. Schiraldi, M. Parrilli, E. Bedini, *Chem. Eur. J.*, doi: 10.1002/chem.201603525
3. A novel chemoenzymatic synthesis of sulfated type 2 tumor-associated carbohydrate antigens by transglycosylation of sulfated Lewis X oxazoline catalyzed by keratanase II, Y. Yamazaki, K. Sezukuri, J. Takada, S. Kimura, M. Ohmae, *ChemBioChem*, doi: 10.1002/cbic.201600142
4. A reversible B–A transition of DNA duplexes induced by synthetic cationic copolymers, N. Yamaguchi, Y. Zouzumi, N. Shimada, S.-I. Nakano, N. Sugimoto, A. Maruyama, D. Miyoshi, *Chem. Commun.*, doi: 10.1039/C6CC02237E

5. A synthetic biochemistry module for production of bio-based chemicals from glucose, P.H. Opgenorth, T.P. Korman, J.U. Bowie, *Nat. Chem. Biol.*, doi: 10.1038/nchembio.2062
6. A visible-light-promoted O-glycosylation with a thioglycoside donor, M.L. Spell, K. Deveau, C.G. Bresnahan, B.L. Bernard, W. Sheffield, R. Kumar, J.R. Ragains, *Angew. Chem. Int. Ed.*, doi: 10.1002/anie.201601566
7. Atomic visualization of a flipped-back conformation of bisected glycans bound to specific lectins, M. Nagae, M. Kanagawa, K. Morita-Matsumoto, S. Hanashima, Y. Kizuka, N. Taniguchi, Y. Yamaguchi, *Sci. Rep.*, doi: 10.1038/srep22973
8. Automated glycan sequencing from tandem mass spectra of N-linked glycopeptides, C.-Y. Yu, A. Mayampurath, R. Zhu, L. Zacharias, E. Song, L. Wang, Y. Mechref, H. Tang, *Anal. Chem.*, doi: 10.1021/acs.analchem.5b04858
9. Bacteriophage tailspikes and bacterial O-antigens as a model system to study weak-affinity protein–polysaccharide interactions, Y. Kang, U. Gohlke, O. Engström, C. Hamark, T. Scheidt, S. Kunstmann, U. Heinemann, G. Widmalm, M. Santer, S. Barbirz, *J. Am. Chem. Soc.*, doi: 10.1021/jacs.6b00240
10. Basic amino acids as green catalysts for isomerization of glucose to fructose in water, Q. Yang, M. Sherbahn, T. Runge, *ACS Sustainable Chem. Eng.*, doi: 10.1021/acssuschemeng.6b00587
11. Building nanowires from micelles: Hierarchical self-assembly of alternating amphiphilic glycopolypeptide brushes with pendants of high-mannose glycodendron and oligophenylalanine, Y. Liu, Y. Zhang, Z. Wang, J. Wang, K. Wei, Guosong Chen, Ming Jiang, *J. Am. Chem. Soc.*, doi: 10.1021/jacs.6b05044
12. Catching elusive glycosyl cations in a condensed phase with HF/SbF₅ superacid, A. Martin, A. Arda, J. Désiré, A. Martin-Mingot, N. Probst, P. Sinaÿ, J. Jiménez-Barbero, S. Thibaudau, Y. Blériot, *Nat. Chem.*, doi: 10.1038/nchem.2399
13. Cellulose-based biosensors for esterase detection, F. Derikvand, D.T. Yin, R. Barrett, H. Brumer, *Anal. Chem.*, doi: 10.1021/acs.analchem.5b04661
14. Chemical approach to positional isomers of glucose–platinum conjugates reveals specific cancer targeting through glucose-transporter-mediated uptake *in vitro* and *in vivo*, M. Patra, S.G. Awuah, S.J. Lippard, *J. Am. Chem. Soc.*, doi: 10.1021/jacs.6b06937
15. Chemical O-glycosylations: An overview, R. Das, B. Mukhopadhyay, *Chem. Open*, doi: 10.1002/open.201600043
16. Chemical synthesis of a complex-type N-glycan containing a core fucose, M. Nagasaki, Y. Manabe, N. Minamoto, K.

- Tanaka, A. Silipo, A. Molinaro, K. Fukase, *J. Org. Chem.*, doi: 10.1021/acs.joc.6b02106
17. Convergent solid-phase synthesis of macromolecular MUC1 models truly mimicking serum glycoprotein biomarkers of interstitial lung diseases, N. Ohyabu, K. Kakiya, Y. Yokoi, H. Hinou, S.-I. Nishimura, *J. Am. Chem. Soc.*, doi: 10.1021/jacs.6b04973
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 20. Direct aqueous synthesis of cyanomethyl thioglycosides from reducing sugars; ready access to reagents for protein glycosylation, Stewart R. Alexander, Antony J. Fairbanks, *Org. Biomol. Chem.*, doi: 10.1039/C6OB01069E
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 23. Galectin-8 enhances adhesion of multiple myeloma cells to vascular endothelium and is an adverse prognostic factor, M. Friedel, S. André, H. Goldschmidt, H.-J. Gabius, R. Schwartz-Albiez, *Glycobiology*, doi: 10.1093/glycob/cww066
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 26. Quantitative investigation of human cell surface N-glycoprotein dynamics, H. Xiao, R. Wu, *Chem. Sci.*, doi: 10.1039/C6SC01814A
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 30. Sequential one-pot multienzyme chemoenzymatic synthesis of glycosphingolipid glycans, H. Yu, Y. Li, J. Zeng, V. Thon, D.M. Nguyen, T. Ly, H.Y. Kuang, A. Ngo, X. Chen, *J. Org. Chem.*, doi: 10.1021/acs.joc.6b01905
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 32. Small-molecule carbohydrate-based immunostimulants, C.H. Marzabadi, R.W. Franck, *Chem. Eur. J.*, doi: 10.1002/chem.201601539
 33. Stereoinversion of stereocongested carbocyclic alcohols via triflylation and subsequent treatment with aqueous *N,N*-dimethylformamide, H. Ochiai, T. Niwa, T. Hosoya, *Org. Lett.*, doi: 10.1021/acs.orglett.6b02675
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 38. Synthesis of D-galactosamine and D-allosamine derivatives via a microwave-assisted preparation of 1,6-anhydroglucosamine, V.M. Dhurandhare, Y.-S. Wen, S.D. Gawande, P.-H. Liao, C.-C. Wang, *J. Org. Chem.*, doi: 10.1021/acs.

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42. Total synthesis of the complete protective antigen of *Vibrio cholerae* O139, S.E. Soliman, P. Kováč, *Angew. Chem. Int. Ed.*, doi: 10.1002/anie.201606116
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We hope our page will become more visible and will help researchers and students to find interesting glyco-related research more easily.

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