



## Georgios Skiniotis

Professor of Molecular and Cellular Physiology, of Structural Biology and of Photon Science

Molecular & Cellular Physiology

### Bio

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#### BIO

The Skiniotis laboratory seeks to resolve structural and mechanistic questions underlying biological processes that are central to cellular physiology. Our investigations employ primarily cryo-electron microscopy (cryoEM) and 3D reconstruction techniques complemented by biochemistry, biophysics and simulation methods to obtain a dynamic view into the macromolecular complexes carrying out these processes. The main theme in the lab is the structural biology of cell surface receptors that mediate intracellular signaling and communication. Our current main focus is the exploration of the mechanisms responsible for transmembrane signal instigation in cytokine receptors and G protein coupled receptor (GPCR) complexes.

#### ACADEMIC APPOINTMENTS

- Professor, Molecular & Cellular Physiology
- Professor, Structural Biology
- Professor, Photon Science Directorate
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

#### ADMINISTRATIVE APPOINTMENTS

- Director, Stanford CryoEM Center (cEMc), (2021- present)
- Co-Director of Stanford-SLAC Cryo-EM Center, Stanford University, (2017-2021)
- Professor of Photon Science (by courtesy), SLAC, (2017- present)
- Professor of Structural Biology and Molecular & Cellular Physiology, Stanford University, (2017- present)
- Jack E. Dixon Collegiate Professor of the Life Sciences, University of Michigan, (2013-2017)
- Assistant Professor, Dept. of Biological Chemistry, University of Michigan, (2008-2013)

#### HONORS AND AWARDS

- Earl and Thressa Stadtman Scholar Award, ASBMB (2016)
- Presidential Early Career Award for Scientists and Engineers, White House/NIH (2012)
- Pew Scholar in Biomedical Sciences, The Pew Charitable Trusts (2011)
- Damon Runyon Cancer Research Foundation postdoctoral fellow, Damon Runyon Cancer Research Foundation (2004)

## Teaching

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### COURSES

#### 2023-24

- Methods in Molecular Biophysics: BIOPHYS 242, SBIO 242 (Win)

### STANFORD ADVISEES

#### Postdoctoral Faculty Sponsor

Mahamaya Biswal, Siyu Li, Robert Nwokonko, Liang Wang, Cheng-Guo Wu

## Publications

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### PUBLICATIONS

- **AlphaFold2 structures guide prospective ligand discovery.** *Science (New York, N.Y.)*  
Lyu, J., Kapolka, N., Gumpfer, R., Alon, A., Wang, L., Jain, M. K., Barros-Álvarez, X., Sakamoto, K., Kim, Y., DiBerto, J., Kim, K., Glenn, I. S., Tummino, et al  
2024: eadn6354
- **Time-resolved cryo-EM of G-protein activation by a GPCR.** *Nature*  
Papaserghi-Scott, M. M., Perez-Hernandez, G., Batebi, H., Gao, Y., Eskici, G., Seven, A. B., Panova, O., Hilger, D., Casiraghi, M., He, F., Maul, L., Gmeiner, P., Kobilka, et al  
2024
- **Allosteric modulation and G-protein selectivity of the Ca<sup>2+</sup>-sensing receptor.** *Nature*  
He, F., Wu, C. G., Gao, Y., Rahman, S. N., Zaoralová, M., Papaserghi-Scott, M. M., Gu, T. J., Robertson, M. J., Seven, A. B., Li, L., Mathiesen, J. M., Skiniotis, G.  
2024
- **Structure-based discovery of positive allosteric modulators for the calcium sensing receptor.** *bioRxiv : the preprint server for biology*  
Liu, F., Wu, C., Tu, C., Glenn, I., Meyerowitz, J., Kaplan, A. L., Lyu, J., Cheng, Z., Tarkhanova, O. O., Moroz, Y. S., Irwin, J. J., Chang, W., Shoichet, et al  
2023
- **AlphaFold2 structures template ligand discovery.** *bioRxiv : the preprint server for biology*  
Lyu, J., Kapolka, N., Gumpfer, R., Alon, A., Wang, L., Jain, M. K., Barros-Álvarez, X., Sakamoto, K., Kim, Y., DiBerto, J., Kim, K., Tummino, T. A., Huang, et al  
2023
- **Insights into distinct signaling profiles of the OR activated by diverse agonists.** *Nature chemical biology*  
Qu, Q., Huang, W., Aydin, D., Paggi, J. M., Seven, A. B., Wang, H., Chakraborty, S., Che, T., DiBerto, J. F., Robertson, M. J., Inoue, A., Suomivuori, C., Roth, et al  
2022
- **Structure determination of inactive-state GPCRs with a universal nanobody.** *Nature structural & molecular biology*  
Robertson, M. J., Papaserghi-Scott, M. M., He, F., Seven, A. B., Meyerowitz, J. G., Panova, O., Peroto, M. C., Che, T., Skiniotis, G.  
2022
- **Bespoke library docking for 5-HT<sub>2A</sub> receptor agonists with antidepressant activity.** *Nature*  
Kaplan, A. L., Confair, D. N., Kim, K., Barros-Álvarez, X., Rodriguiz, R. M., Yang, Y., Kweon, O. S., Che, T., McCorvy, J. D., Kamber, D. N., Phelan, J. P., Martins, L. C., Pogorelov, et al  
2022
- **Signaling snapshots of a serotonin receptor activated by the prototypical psychedelic LSD.** *Neuron*  
Cao, C., Barros-Alvarez, X., Zhang, S., Kim, K., Damgen, M. A., Panova, O., Suomivuori, C., Fay, J. F., Zhong, X., Krumm, B. E., Gumpfer, R. H., Seven, A. B., Robertson, et al  
2022
- **The tethered peptide activation mechanism of adhesion GPCRs.** *Nature*  
Barros-Alvarez, X., Nwokonko, R. M., Vizurraga, A., Matzov, D., He, F., Papaserghi-Scott, M. M., Robertson, M. J., Panova, O., Yardeni, E. H., Seven, A. B., Kwarcinski, F. E., Su, H., Peroto, et al

2022

- **The oxytocin signaling complex reveals a molecular switch for cation dependence.** *Nature structural & molecular biology*  
Meyerowitz, J. G., Robertson, M. J., Barros-Alvarez, X., Panova, O., Nwokonko, R. M., Gao, Y., Skiniotis, G.  
2022
- **Plasticity in ligand recognition at somatostatin receptors.** *Nature structural & molecular biology*  
Robertson, M. J., Meyerowitz, J. G., Panova, O., Borrelli, K., Skiniotis, G.  
2022
- **Structure and mechanism of the SGLT family of glucose transporters.** *Nature*  
Han, L., Qu, Q., Aydin, D., Panova, O., Robertson, M. J., Xu, Y., Dror, R. O., Skiniotis, G., Feng, L.  
2021
- **Structural insights into GIRK2 channel modulation by cholesterol and PIP2.** *Cell reports*  
Mathiharan, Y. K., Glaaser, I. W., Zhao, Y., Robertson, M. J., Skiniotis, G., Slesinger, P. A.  
2021; 36 (8): 109619
- **Drug discovery in the era of cryo-electron microscopy.** *Trends in biochemical sciences*  
Robertson, M. J., Meyerowitz, J. G., Skiniotis, G.  
2021
- **G-protein activation by a metabotropic glutamate receptor.** *Nature*  
Seven, A. B., Barros-Álvarez, X., de Lapeyrière, M., Papasergi-Scott, M. M., Robertson, M. J., Zhang, C., Nwokonko, R. M., Gao, Y., Meyerowitz, J. G., Rocher, J. P., Schelshorn, D., Kobilka, B. K., Mathiesen, et al  
2021
- **Asymmetric activation of the calcium-sensing receptor homodimer.** *Nature*  
Gao, Y., Robertson, M. J., Rahman, S. N., Seven, A. B., Zhang, C., Meyerowitz, J. G., Panova, O., Hannan, F. M., Thakker, R. V., Bräuner-Osborne, H., Mathiesen, J. M., Skiniotis, G.  
2021
- **Structure of the Visual Signaling Complex between Transducin and Phosphodiesterase 6.** *Molecular cell*  
Gao, Y., Eskici, G., Ramachandran, S., Poitevin, F., Seven, A. B., Panova, O., Skiniotis, G., Cerione, R. A.  
2020
- **Structure of a Hallucinogen-Activated Gq-Coupled 5-HT<sub>2A</sub> Serotonin Receptor.** *Cell*  
Kim, K., Che, T., Panova, O., DiBerto, J. F., Lyu, J., Krumm, B. E., Wacker, D., Robertson, M. J., Seven, A. B., Nichols, D. E., Shoichet, B. K., Skiniotis, G., Roth, et al  
2020; 182 (6): 1574
- **Structure of the M2 muscarinic receptor- $\beta$ -arrestin complex in a lipid nanodisc.** *Nature*  
Staus, D. P., Hu, H. n., Robertson, M. J., Kleinhenz, A. L., Wingler, L. M., Capel, W. D., Latorraca, N. R., Lefkowitz, R. J., Skiniotis, G. n.  
2020
- **Structures of metabotropic GABAB receptor.** *Nature*  
Papasergi-Scott, M. M., Robertson, M. J., Seven, A. B., Panova, O. n., Mathiesen, J. M., Skiniotis, G. n.  
2020
- **Structure of the neurotensin receptor 1 in complex with  $\beta$ -arrestin 1.** *Nature*  
Huang, W. n., Masureel, M. n., Qianhui, Q. n., Janetzko, J. n., Inoue, A. n., Kato, H. E., Robertson, M. J., Nguyen, K. C., Glenn, J. S., Skiniotis, G. n., Kobilka, B. K.  
2020
- **GemSpot: A Pipeline for Robust Modeling of Ligands into Cryo-EM Maps.** *Structure (London, England : 1993)*  
Robertson, M. J., van Zundert, G. C., Borrelli, K. n., Skiniotis, G. n.  
2020
- **Structural insights into differences in G protein activation by family A and family B GPCRs.** *Science (New York, N.Y.)*  
Hilger, D. n., Kumar, K. K., Hu, H. n., Pedersen, M. F., O'Brien, E. S., Giehm, L. n., Jennings, C. n., Eskici, G. n., Inoue, A. n., Lerch, M. n., Mathiesen, J. M., Skiniotis, G. n., Kobilka, et al

2020; 369 (6503)

- **Conformational transitions of a neurotensin receptor1-Gi1complex.** *Nature*  
Kato, H. E., Zhang, Y., Hu, H., Suomivuori, C., Kadji, F. M., Aoki, J., Krishna Kumar, K., Fonseca, R., Hilger, D., Huang, W., Latorraca, N. R., Inoue, A., Dror, et al  
2019
- **Structures of the Rhodopsin-Transducin Complex: Insights into G-Protein Activation.** *Molecular cell*  
Gao, Y., Hu, H., Ramachandran, S., Erickson, J. W., Cerione, R. A., Skiniotis, G.  
2019
- **Structural insights into the activation of metabotropic glutamate receptors.** *Nature*  
Koehl, A., Hu, H., Feng, D., Sun, B., Zhang, Y., Robertson, M. J., Chu, M., Kobilka, T. S., Laermans, T., Steyaert, J., Tarrasch, J., Dutta, S., Fonseca, et al  
2019
- **Structures of the M1 and M2 muscarinic acetylcholine receptor/G-protein complexes.** *Science (New York, N.Y.)*  
Maeda, S. n., Qu, Q. n., Robertson, M. J., Skiniotis, G. n., Kobilka, B. K.  
2019; 364 (6440): 552-57
- **Structure of a Signaling Cannabinoid Receptor 1-G Protein Complex.** *Cell*  
Krishna Kumar, K., Shalev-Benami, M., Robertson, M. J., Hu, H., Banister, S. D., Hollingsworth, S. A., Latorraca, N. R., Kato, H. E., Hilger, D., Maeda, S., Weis, W. I., Farrrens, D. L., Dror, et al  
2018
- **Structure and Conformational Dynamics of a COMPASS Histone H3K4 Methyltransferase Complex.** *Cell*  
Qu, Q., Takahashi, Y., Yang, Y., Hu, H., Zhang, Y., Brunzelle, J. S., Couture, J., Shilatifard, A., Skiniotis, G.  
2018
- **Structure of the  $\mu$ -opioid receptor-Gi protein complex.** *Nature*  
Koehl, A., Hu, H., Maeda, S., Zhang, Y., Qu, Q., Paggi, J. M., Latorraca, N. R., Hilger, D., Dawson, R., Matile, H., Schertler, G. F., Granier, S., Weis, et al  
2018
- **Structural Basis for Teneurin Function in Circuit-Wiring: A Toxin Motif at the Synapse** *CELL*  
Li, J., Shalev-Benami, M., Sando, R., Jiang, X., Kibrom, A., Wang, J., Leon, K., Katanski, C., Nazarko, O., Lu, Y. C., Sudhof, T. C., Skiniotis, G., Arac, et al  
2018; 173 (3): 735-+
- **Cryo-EM structure of the activated GLP-1 receptor in complex with a G protein.** *Nature*  
Zhang, Y., Sun, B., Feng, D., Hu, H., Chu, M., Qu, Q., Tarrasch, J. T., Li, S., Sun Kobilka, T., Kobilka, B. K., Skiniotis, G.  
2017; 546 (7657): 248-253
- **Phase-plate cryo-EM structure of a class B GPCR-G-protein complex.** *Nature*  
Liang, Y., Khoshouei, M., Radjainia, M., Zhang, Y., Glukhova, A., Tarrasch, J., Thal, D. M., Furness, S. G., Christopoulos, G., Coudrat, T., Danev, R., Baumeister, W., Miller, et al  
2017; 546 (7656): 118-123
- **Atomic resolution snapshot of Leishmania ribosome inhibition by the aminoglycoside paromomycin.** *Nature communications*  
Shalev-Benami, M. n., Zhang, Y. n., Rozenberg, H. n., Nobe, Y. n., Taoka, M. n., Matzov, D. n., Zimmerman, E. n., Bashan, A. n., Isobe, T. n., Jaffe, C. L., Yonath, A. n., Skiniotis, G. n.  
2017; 8 (1): 1589
- **2.8-angstrom Cryo-EM Structure of the Large Ribosomal Subunit from the Eukaryotic Parasite Leishmania** *CELL REPORTS*  
Shalev-Benami, M., Zhang, Y., Matzov, D., Halfon, Y., Zackay, A., Rozenberg, H., Zimmerman, E., Bashan, A., Jaffe, C. L., Yonath, A., Skiniotis, G.  
2016; 16 (2): 288-294
- **Single-particle cryo-electron microscopy of macromolecular complexes** *MICROSCOPY*  
Skiniotis, G., Southworth, D. R.  
2016; 65 (1): 9-22
- **Visualization of arrestin recruitment by a G-protein-coupled receptor** *NATURE*  
Shukla, A. K., Westfield, G. H., Xiao, K., Reis, R. I., Huang, L., Tripathi-Shukla, P., Qian, J., Li, S., Blanc, A., Oleskie, A. N., Dosey, A. M., Su, M., Liang, et al  
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- **Structure of a modular polyketide synthase** *NATURE*  
Dutta, S., Whicher, J. R., Hansen, D. A., Hale, W. A., Chemler, J. A., Congdon, G. R., Narayan, A. R., Hakansson, K., Sherman, D. H., Smith, J. L., Skiniotis, G.  
2014; 510 (7506): 512-?
- **Structural rearrangements of a polyketide synthase module during its catalytic cycle** *NATURE*  
Whicher, J. R., Dutta, S., Hansen, D. A., Hale, W. A., Chemler, J. A., Dosey, A. M., Narayan, A. R., Hakansson, K., Sherman, D. H., Smith, J. L., Skiniotis, G.  
2014; 510 (7506): 560-?
- **Ligand-Induced Architecture of the Leptin Receptor Signaling Complex** *MOLECULAR CELL*  
Mancour, L. V., Daghestani, H. N., Dutta, S., Westfield, G. H., Schilling, J., Oleskie, A. N., Herbstman, J. F., Chou, S. Z., Skiniotis, G.  
2012; 48 (4): 655-661
- **Crystal structure of the beta(2) adrenergic receptor-Gs protein complex** *NATURE*  
Rasmussen, S. G., DeVree, B. T., Zou, Y., Kruse, A. C., Chung, K. Y., Kobilka, T. S., Thian, F. S., Chae, P. S., Pardon, E., Calinski, D., Mathiesen, J. M., Shah, S. T., Lyons, et al  
2011; 477 (7366): 549-U311
- **Structural flexibility of the Gas alpha-helical domain in the beta(2)-adrenoceptor Gs complex** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Westfield, G. H., Rasmussen, S. G., Su, M., Dutta, S., DeVree, B. T., Chung, K. Y., Calinski, D., Velez-Ruiz, G., Oleskie, A. N., Pardon, E., Chae, P. S., Liu, T., Li, et al  
2011; 108 (38): 16086-16091
- **Ribosome Assembly Factors Prevent Premature Translation Initiation by 40S Assembly Intermediates** *SCIENCE*  
Strunk, B. S., Loucks, C. R., Su, M., Vashisth, H., Cheng, S., Schilling, J., Brooks, C. L., Karbstein, K., Skiniotis, G.  
2011; 333 (6048): 1449-1453
- **Hexahydroquinoline Derivatives are Selective Agonists for the Adhesion G Protein-Coupled Receptor ADGRG1/GPR56.** *Molecular pharmacology*  
Vizurraga, A. L., Robertson, M. J., Yu, M., Skiniotis, G., Tall, G. G.  
2023
- **Structural basis for activation of CB1 by an endocannabinoid analog.** *Nature communications*  
Krishna Kumar, K., Robertson, M. J., Thadhani, E., Wang, H., Suomivuori, C. M., Powers, A. S., Ji, L., Nikas, S. P., Dror, R. O., Inoue, A., Makriyannis, A., Skiniotis, G., Kobilka, et al  
2023; 14 (1): 2672
- **Structures of Ric-8B in complex with Galpha protein folding clients reveal isoform specificity mechanisms.** *Structure (London, England : 1993)*  
Papaserghi-Scott, M. M., Kwarcinski, F. E., Yu, M., Panova, O., Ovrutsky, A. M., Skiniotis, G., Tall, G. G.  
2023
- **Structure-based design of bitopic ligands for the  $\mu$ -opioid receptor.** *Nature*  
Faouzi, A., Wang, H., Zaidi, S. A., DiBerto, J. F., Che, T., Qu, Q., Robertson, M. J., Madasu, M. K., El Daibani, A., Varga, B. R., Zhang, T., Ruiz, C., Liu, et al  
2022
- **Structural basis for recognition of N-formyl peptides as pathogen-associated molecular patterns.** *Nature communications*  
Chen, G., Wang, X., Liao, Q., Ge, Y., Jiao, H., Chen, Q., Liu, Y., Lyu, W., Zhu, L., van Zundert, G. C., Robertson, M. J., Skiniotis, G., Du, et al  
2022; 13 (1): 5232
- **Development of OPLS-AA/M Parameters for Simulations of G Protein-Coupled Receptors and Other Membrane Proteins.** *Journal of chemical theory and computation*  
Robertson, M. J., Skiniotis, G.  
2022
- **Structure-based Evolution of G protein-biased mu-opioid Receptor Agonists.** *Angewandte Chemie (International ed. in English)*  
Gmeiner, P., Wang, H., Hetzer, F., Huang, W., Qu, Q., Meyerowitz, J., Kaindl, J., Hubner, H., Skiniotis, G., Kobilka, B. K.  
2022
- **Atypical structural snapshots of human cytomegalovirus GPCR interactions with host G proteins.** *Science advances*  
Tsutsumi, N., Maeda, S., Qu, Q., Vogeleson, M., Jude, K. M., Suomivuori, C., Panova, O., Waghay, D., Kato, H. E., Velasco, A., Dror, R. O., Skiniotis, G., Kobilka, et al

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- **Directed evolution of and structural insights into antibody-mediated disruption of a stable receptor-ligand complex.** *Nature communications*  
Pennington, L. F., Gasser, P., Kleinboelting, S., Zhang, C., Skiniotis, G., Eggel, A., Jardetzky, T. S.  
2021; 12 (1): 7069
- **Structural basis for IL-12 and IL-23 receptor sharing reveals a gateway for shaping actions on T versus NK cells.** *Cell*  
Glassman, C. R., Mathiharan, Y. K., Jude, K. M., Su, L. n., Panova, O. n., Lupardus, P. J., Spangler, J. B., Ely, L. K., Thomas, C. n., Skiniotis, G. n., Garcia, K. C.  
2021; 184 (4): 983–99.e24
- **Structural basis for the constitutive activity and immunomodulatory properties of the Epstein-Barr virus-encoded G protein-coupled receptor BILF1.** *Immunity*  
Tsutsumi, N., Qu, Q., Mavri, M., Baggesen, M. S., Maeda, S., Waghray, D., Berg, C., Kobilka, B. K., Rosenkilde, M. M., Skiniotis, G., Garcia, K. C.  
2021
- **CRYO-EM Structures of the GIRK2 Channel Reveal Mechanisms for Lipid Modulation**  
Glaaser, I. W., Mathiharan, Y. K., Zhao, Y., Skiniotis, G., Slesinger, P. A.  
CELL PRESS.2020: 497A–498A
- **Structures of G# Proteins in Complex with Their Chaperone Reveal Quality Control Mechanisms.** *Cell reports*  
Seven, A. B., Hilger, D. n., Papasergi-Scott, M. M., Zhang, L. n., Qu, Q. n., Kobilka, B. K., Tall, G. G., Skiniotis, G. n.  
2020
- **Assessment of Biased Agonism among Distinct Synthetic Cannabinoid Receptor Agonist Scaffolds.** *ACS pharmacology & translational science*  
Wouters, E. n., Walraed, J. n., Robertson, M. J., Meyrath, M. n., Szpakowska, M. n., Chevigné, A. n., Skiniotis, G. n., Stove, C. n.  
2020; 3 (2): 285–95
- **Limited Dishevelled/Axin oligomerization determines efficiency of Wnt/#-catenin signal transduction.** *eLife*  
Kan, W. n., Enos, M. D., Korkmazhan, E. n., Muennich, S. n., Chen, D. H., Gammons, M. V., Vasishtha, M. n., Bienz, M. n., Dunn, A. R., Skiniotis, G. n., Weis, W. I.  
2020; 9
- **A non-canonical monovalent zinc finger stabilizes the integration of Cfp1 into the H3K4 methyltransferase complex COMPASS.** *Nucleic acids research*  
Yang, Y., Joshi, M., Takahashi, Y., Ning, Z., Qu, Q., Brunzelle, J. S., Skiniotis, G., Figeys, D., Shilatifard, A., Couture, J.  
2019
- **Self-Assembly Behavior and Application of Terphenyl-Cored Trimaltosides for Membrane-Protein Studies: Impact of Detergent Hydrophobic Group Geometry on Protein Stability.** *Chemistry (Weinheim an der Bergstrasse, Germany)*  
Ehsan, M., Du, Y., Mortensen, J. S., Hariharan, P., Qu, Q., Ghani, L., Das, M., Grethen, A., Byrne, B., Skiniotis, G., Keller, S., Loland, C. J., Guan, et al  
2019
- **Structures of the M1 and M2 muscarinic acetylcholine receptor/G-protein complexes** *SCIENCE*  
Maeda, S., Qu, Q., Robertson, M. J., Skiniotis, G., Kobilka, B. K.  
2019; 364 (6440): 552–+
- **Structural insights into the activation of metabotropic glutamate receptors (vol 566, pg 79, 2019)** *NATURE*  
Koehl, A., Hu, H., Feng, D., Sun, B., Zhang, Y., Robertson, M. J., Chu, M., Kobilka, T., Laeremans, T., Steyaert, J., Tarrasch, J., Dutta, S., Fonseca, et al  
2019; 567 (7747): E10
- **Structure of a Signaling Cannabinoid Receptor 1-G Protein Complex** *CELL*  
Kumar, K., Shalev-Benami, M., Robertson, M. J., Hu, H., Banister, S. D., Hollingsworth, S. A., Latorraca, N. R., Kato, H. E., Hilger, D., Maeda, S., Weis, W. I., Farrens, D. L., Dror, et al  
2019; 176 (3): 448–+
- **De novo computational RNA modeling into cryo-EM maps of large ribonucleoprotein complexes.** *Nature methods*  
Kappel, K., Liu, S., Larsen, K. P., Skiniotis, G., Puglisi, E. V., Puglisi, J. D., Zhou, Z. H., Zhao, R., Das, R.  
2018
- **Structural Analysis of the Ash2L/Dpy-30 Complex Reveals a Heterogeneity in H3K4 Methylation.** *Structure (London, England : 1993)*  
Haddad, J. F., Yang, Y., Takahashi, Y., Joshi, M., Chaudhary, N., Woodfin, A. R., Benyoucef, A., Yeung, S., Brunzelle, J. S., Skiniotis, G., Brand, M., Shilatifard, A., Couture, et al

2018

- **Development of an antibody fragment that stabilizes GPCR/G-protein complexes.** *Nature communications*  
Maeda, S., Koehl, A., Matile, H., Hu, H., Hilger, D., Schertler, G. F., Manglik, A., Skiniotis, G., Dawson, R. J., Kobilka, B. K.  
2018; 9 (1): 3712
- **Vitamin E-based glycoside amphiphiles for membrane protein structural studies.** *Organic & biomolecular chemistry*  
Ehsan, M. n., Du, Y. n., Molist, I. n., Seven, A. B., Hariharan, P. n., Mortensen, J. S., Ghani, L. n., Loland, C. J., Skiniotis, G. n., Guan, L. n., Byrne, B. n., Kobilka, B. K., Chae, et al  
2018; 16 (14): 2489–98
- **Architecture of an HIV-1 reverse transcriptase initiation complex.** *Nature*  
Larsen, K. P., Mathiharan, Y. K., Kappel, K. n., Coey, A. T., Chen, D. H., Barrero, D. n., Madigan, L. n., Puglisi, J. D., Skiniotis, G. n., Puglisi, E. V.  
2018
- **Alternative Mode of E-Site tRNA Binding in the Presence of a Downstream mRNA Stem Loop at the Entrance Channel.** *Structure (London, England : 1993)*  
Zhang, Y. n., Hong, S. n., Ruangprasert, A. n., Skiniotis, G. n., Dunham, C. M.  
2018; 26 (3): 437–45.e3
- **Dendronic trimaltoside amphiphiles (DTMs) for membrane protein study** *CHEMICAL SCIENCE*  
Sadaf, A., Du, Y., Santillan, C., Mortensen, J. S., Molist, I., Seven, A. B., Hariharan, P., Skiniotis, G., Loland, C. J., Kobilka, B. K., Guan, L., Byrne, B., Chae, et al  
2017; 8 (12): 8315–24
- **New penta-saccharide-bearing tripod amphiphiles for membrane protein structure studies.** *The Analyst*  
Ehsan, M., Ghani, L., Du, Y., Hariharan, P., Mortensen, J. S., Ribeiro, O., Hu, H., Skiniotis, G., Loland, C. J., Guan, L., Kobilka, B. K., Byrne, B., Chae, et al  
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