

BIBLIO

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References

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- [AB06] Hani Atamna and Kathleen Boyle, *Amyloid- β peptide binds with heme to form a peroxidase: Relationship to the cytopathologies of Alzheimer's disease*, Proc. Natl. Acad. Sci. U.S.A. **103** (2006), no. 9, 3381–3386.
- [AB07] H. M. Abdul and D. A. Butterfield, *Involvement of PI3K/PKG/ERK1/2 signaling pathways in cortical neurons to trigger protection by cotreatment of acetyl-l-carnitine and α -lipoic acid against HNE-mediated oxidative stress and neurotoxicity: implications for Alzheimer's disease*, Free Radical Biology and Medicine **42** (2007), 371–384.
- [ABB⁺00] H. Akiyama, S. Barger, S. Barnum, B. Bradt, J. Bauer, G. M. Cole, N. R. Cooper, P. Eikelenboom, M. Emmerling, B. L. Fiebich, C. E. Finch, S. Frautschy, W. S. Griffin, H. Hampel, M. Hull, G. Landreth, L. Lue, R. Mrak, I. R. Mackenzie, P. L. Geer, M. K. Banion, J. Pachter, G. Pasinetti, C. Plata-Salaman, J. Rogers, R. Rydel, Y. Shen, W. Streit, R. Strohmeyer, I. Tooyoma, M. Van, R. Veerhuis, D. Walker, S. Webster, B. Wegrzyniak, G. Wenk, and T. Wyss-Coray, *Inflammation and Alzheimer's disease*, Neurobiology of Aging **21** (2000), no. 3, 383–421.
- [ACMH11] Anne H. Armstrong, Jermont Chen, Angela Fortner McKoy, and Michael H. Hech, *Mutations that replace aromatic side chains promote aggregation of the Alzheimer's A β peptide*, Biochemistry **50** (2011), no. 19, 4058–4067.
- [AG08] A. V. Yakubovich, I. A. Solov'yov, A. V. Solov'yov and W. Greiner, *Ab initio theory of helix-coil phase transition*, Eur. Phys. J. D **46** (2008), 215.
- [AGH⁺11] Touqeer Ahmed, Anwarul-Hassan Gilani, Narges Hosseinmardi, Saeed Semnanian, Syed Ather Enam, and Yaghoub Fathollahi, *Curcuminoids rescue long-term potentiation impaired by amyloid peptide in rat hippocampal slices*, Synapse **65** (2011), no. 7, 572–582.
- [AGHWH92] Paulina V. Arriagada, John H. Growdon, E. Tessa Hedley-Whyte, and Bradley T. Hyman, *Neurofibrillary tangles but not senile plaques parallel duration and severity of Alzheimer's disease*, Neurology **42** (1992), no. 3, 631.
- [AH09] Bharat B. Aggarwal and Kuzhuvelil B. Harikumar, *Potential therapeutic effects of curcumin, the anti-inflammatory agent, against neurodegenerative, cardiovascular, pulmonary, metabolic, autoimmune and neoplastic diseases*, The International Journal of Biochemistry and Cell Biology **41** (2009), 40–59.

- [AHH⁺06] Richard H. Ashley, Thad A. Harroun, Thomas Hauss, Kieran C. Breen, and Jeremy P. Bradshaw, *Autoinsertion of soluble oligomers of Alzheimer's A β (1-42) peptide into cholesterol-containing membranes is accompanied by relocation of the sterol towards the bilayer surface*, BMC Struct. Biol. **6** (2006), 21.
- [AHR⁺12] James M. Aramini, Keith Hamilton, Paolo Rossi, Asli Ertekin, HsiauWei Lee, Alexander Lemak, Huang Wang, Rong Xiao, Thomas B. Acton, John K. Everett, and Gaetano T. Montelione, *Solution NMR structure, backbone dynamics, and heme-binding properties of a novel cytochrome c maturation protein CcmE from desulfovibrio vulgaris*, Biochemistry **51** (2012), no. 18, 3705–3707.
- [AI04] Hani Atamna and William H. Frey II, *A role for heme in Alzheimer's disease: Heme binds amyloid β and has altered metabolism*, Proc. Natl. Acad. Sci. U.S.A. **101** (2004), no. 30, 11153–11158.
- [AIPD11] Andrey Y. Abramov, Maksim Ionov, Evgeny Pavlov, and Michael R. Duchon, *Membrane cholesterol content plays a key role in the neurotoxicity of β -amyloid: implications for Alzheimer's disease*, Aging Cell **10** (2011), no. 4, 595–603.
- [AJ74] Seelig Anna and Seelig Joachim, *Dynamic structure of fatty acyl chains in a phospholipid bilayer measured by deuterium magnetic resonance*, Biochemistry **13** (1974), no. 23, 4839–4845.
- [AKN02] Hiroshi Abe, Kazunori Kawasaki, and Hiroshi Nakanishi, *pH-dependent aggregate forms and conformation of Alzheimer amyloid beta-peptide (12-24).*, J. Biochem. **132** (2002), no. 6, 863–874.
- [ALpH04] Jesús Avila, José J. Lucas, Mar Pérez, and Félix Hernández, *Role of tau protein in both physiological and pathological conditions*, no. 2, 361–384.
- [ASGC⁺10] Elena Alberdi, M^a Victoria Sánchez-Gómez, Fabio Cavaliere, Alberto Pérez-Samartín, José Luis Zugaza, Ramón Trullas, María Domercq, and Carlos Matute, *Amyloid β oligomers induce Ca²⁺ dysregulation and neuronal death through activation of ionotropic glutamate receptors*, Cell Calcium **47** (2010), no. 3, 264–272.
- [Ata09] Hani Atamna, *Amino acids variations in amyloid- β peptides, mitochondrial dysfunction, and new therapies for Alzheimer's disease*, J. Bioenerg. Biomembr. **41** (2009), no. 5, 457–464.
- [ATABA⁺08] Yael Avramovich-Tirosh, Tamar Amit, Orit Bar-Am, Orly Weinreb, and Moussa BH Youdim, *Physiological and pathological aspects of A β in iron homeostasis via 5'UTR in the APP mRNA and the therapeutic use of iron-chelators*, BMC neuroscience **9** (2008), S2.
- [AW57] B. J. Alder and T. E. Wainwright, *Phase transition for a hard sphere system*, J. Chem. Phys. **27** (1957), 1208.
- [AW59] B. J. Alder and T. E. Wainwright, *Studies in molecular dynamics. I. general method*, J. Chem. Phys. **31** (1959), no. 2, 459.
- [BA08] Donna M. Barten and Charles F. Albright, *Therapeutic strategies for Alzheimer's disease*, Mol. Neurobiol. **37** (2008), 171–186.

- [Bal06] Krishnan Balasubramanian, *Molecular orbital basis for yellow curry spice curcumin's prevention of alzheimer's disease*, J. Agric. Food Chem. **54** (2006), no. 10, 3512–3520.
- [BBK05] D. Allan Butterfield and Debra Boyd-Kimball, *The critical role of methionine 35 in Alzheimer's amyloid β -peptide (1-42)-induced oxidative stress and neurotoxicity*, Biochimica et Biophysica Acta (BBA) - Protein & Proteomics **1703** (2005), no. 2, 149–156.
- [BBONB10] Karim Bordji, Javier Becerril-Ortega, Olivier Nicole, and Alain Buisson, *Activation of extrasynaptic, but not synaptic, NMDA receptors modifies amyloid precursor protein expression pattern and increases amyloid- β production*, J. Neurosci. **30** (2010), no. 47, 15927–15942.
- [BBTMM08] D. Beracochea, A. Boucard, C. Trocme-Thibierge, and P. Morain, *Improvement of contextual memory by S24795 in aged mice: comparison with memantine*, Psychopharmacology **196** (2008), 555–564.
- [BCN⁺04] Shayne A. Bellingham, Giuseppe D. Ciccotosto, B. Elise Needham, Lisa R. Fodero, Anthony R. White, Colin L. Masters, Roberto Cappai, and James Camakaris, *Gene knockout of amyloid precursor protein and amyloid precursor-like protein-2 increases cellular copper levels in primary mouse cortical neurons and embryonic fibroblasts*, J. Neurochem. **91** (2004), no. 2, 423–428.
- [BCO⁺09] Tasha G. Bengoechea, Zhijiang Chen, Debra A. O'Leary, Eliezer Masliah, and Kuo-Fen Lee, *p75 reduces β -amyloid-induced sympathetic innervation deficits in an Alzheimer's disease mouse model*, Proc. Natl. Acad. Sci. U.S.A. **106** (2009), no. 19, 7870–7875.
- [BDL⁺09] S. L. Bernstein, N. F. Dupuis, N. D. Lazo, T. Wytenbach, M. M. Condron, G. Bitan, D. B. Teplow, J-E Shea, B. T. Ruotolo, C. V. Robinson, and M. T. Bowers, *Amyloid- β protein oligomerization and the importance of tetramers and dodecamers in the aetiology of Alzheimer's disease*, Nat. Chem. **1** (2009), no. 4, 326–331.
- [BEJ97] O. Berger, O. Edholm, and F. Jahnig, *Molecular dynamics simulation of a fluid bilayer of dipalmitoylphosphatidylcholine at full hydration, constant pressure and constant temperature*, Biophys. J. **72** (1997), 2002–2013.
- [BFB⁺09] Jeffrey Barry, Michelle Fritz, Jeffrey R. Brender, Pieter E. S. Smith, Dong-Kuk Lee, and Ayyalusamy Ramamoorthy, *Determining the effects of lipophilic drugs on membrane structure by solid-state NMR spectroscopy: The case of the antioxidant curcumin*, J. Am. Chem. Soc. **131** (2009), 4490–4498.
- [BFP⁺11] M. A. Bicca, C. P. Figueiredo, T. C. Piermartiri, F. C. Meotti, Z. L. Bouzon, C. I. Tasca, R. Medeiros, and J. B. Calixto, *The selective and competitive N-methyl-D-aspartate receptor antagonist, (-)-6-phosphonomethyl-deca-hydroisoquinoline-3-carboxylic acid, prevents synaptic toxicity induced by amyloid- β in mice*, Neuroscience **192** (2011), no. 0, 631–641.
- [BGC⁺02] M. Bucciantini, E. Giannoni, F. Chiti, F. Baroni, L. Formigli, J. Zurdo, N. Taddei, G. Ramponi, C. M. Dobson, and M. Stefani, *Inherent toxicity of aggregates implies a common mechanism for protein misfolding diseases*, Nature **416** (2002), 507–511.

- [BGL⁺10] D. Allan Butterfield, Veronica Galvan, Miranda Bader Lange, Huidong Tang, Renā A. Sowell, Patricia Spilman, Joanna Fombonne, Olivia Gorostiza, Junli Zhang, Rukhsana Sultana, and Dale E. Bredesen, *In vivo oxidative stress in brain of Alzheimer disease transgenic mice: Requirement for methionine 35 in amyloid β -peptide of APP*, Free Radical Biology and Medicine **48** (2010), no. 1, 136–144.
- [BIA⁺00] John J. Balbach, Yoshitaka Ishii, Oleg N. Antzutkin, Richard D. Leapman, Nancy W. Rizzo, Fred Dyda, Jennifer Reed, and Robert Tycko, *Amyloid fibril formation by $A\beta_{16-22}$, a seven-residue fragment of the alzheimer’s β -amyloid peptide, and structural characterization by solid state NMR*, Biochemistry **39** (2000), no. 45, 13748–13759.
- [Bir98] Thomas D. Bird, *Alzheimer disease overview*, GeneReviewsTM [Internet] (R. A. Pagon, T. D. Bird, C. R. Dolan, and et al., eds.), Seattle, 1998.
- [Bir08] Thomas D. Bird, *Genetic aspects of Alzheimer disease*, Genet. Med. **10** (2008), 231–239.
- [BJL06] M. Blurton-Jones and F. M. LaFerla, *Pathways by which abeta facilitates tau pathology.*, Curr. Alzheimer Res. **3** (2006), no. 5, 437–448.
- [BKL⁺03] G. Bitan, M. D. Kirkitadze, A. Lomakin, S. S. Vollers, G. B. Benedek, and D. B. Teplow, *Amyloid β -protein ($A\beta$) assembly: $A\beta_{40}$ and $A\beta_{42}$ oligomerize through distinct pathways*, Proc. Natl. Acad. Sci. U.S.A. **100** (2003), no. 1, 330–335.
- [BLC⁺10] Pär Bjelkmar, Per Larsson, Michel A. Cuendet, Berk Hess, and Erik Lindahl, *Implementation of the CHARMM force field in GROMACS: Analysis of protein stability effects from correction maps, virtual interaction sites, and water models*, J. Chem. Theory Comput. **6** (2010), no. 2, 459–466.
- [BLL⁺11] Qingui Bao, Ying Luo, Wei Li, Xiaobo Sun, Cuiqing Zhu, Pingwei Li, Zhong-Xian Huang, and Xiangshi Tan, *The mechanism for heme to prevent $A\beta_{1-40}$ aggregation and its cytotoxicity*, J. Biol. Inorg. Chem **16** (2011), 809–816.
- [BMK⁺08] A. J. Beel, C. K. Mobley, H. J. Kim, F. Tian, A. Hadziselimovic, B. Jap, J. H. Prestegard, and C. R. Sanders, *Structural studies of the transmembrane C-terminal domain of the amyloid precursor protein (APP): does APP function as a cholesterol sensor?*, Biochemistry **47** (2008), 9428–9446.
- [BMP95] K. Boland, K. Manias, and D. H. Perlmuter, *Specificity in recognition of amyloid-beta peptide by the serpin-enzyme complex receptor in hepatoma cells and neuronal cells*, J. Biol. Chem. **270** (1995), no. 47, 28022–28028.
- [BNS94] R. H. Byrd, J. Nocedal, and R. B. Schnabel, *Representations of quasi-newton matrices and their use in limited memory methods*, Math. Programming **63** (1994), no. 4, 129–156.
- [BPDH84] H. J. C. Berendsen, J. P. M. Postma, A. DiNola, and J. R. Haak, *Molecular dynamics with coupling to an external bath*, J. Chem. Phys. **81** (1984), 3684–3690.
- [BR03] M. J. Betts and R. B. Russell, *Bioinformatics for geneticists*, Wiley, 2003.
- [BRBJ07] Alejandro Barrantes, María T. Rejas, María J. Benítez, and Juan S. Jiménez, *Interaction between Alzheimer’s $A\beta_{1-42}$ peptide and DNA detected by surface plasmon resonance*.

- [BRNS07] D. Allan Butterfield, Tanea Reed, Shelley F. Newman, and Rukhsana Sultana, *Roles of amyloid β -peptide-associated oxidative stress and brain protein modifications in the pathogenesis of Alzheimer's disease and mild cognitive impairment*, Free Radical Biology and Medicine **43** (2007), no. 5, 658–677.
- [BS09] Giovanni Bellesia and Joan-Emma Shea, *Diversity of kinetic pathways in amyloid fibril formation*, J. Chem. Phys. **131** (2009), 111102.
- [BT08] Ashley I. Bush and Rudolph E. Tanzi, *Therapeutics for Alzheimer's disease based on the metal hypothesis*, Neurotherapeutics **5** (2008), no. 3, 421–432.
- [BU12] Bogdan Barz and Brigita Urbanc, *Dimer formation enhances structural differences between amyloid β -protein (1-40) and (1-42): an explicit-solvent molecular dynamics study*, PLoS One **7** (2012), no. 4, e34345.
- [BvdSvD95] H. J. C. Berendsen, D. van der Spoel, and R. van Drunen, *GROMACS: A message-passing parallel molecular dynamics implementation*, Comput. Phys. Comm. **91** (1995), 43–56.
- [BvGJH81] H. J. C. Berendsen, W. F. van Gunsteren J. P. M. Postma, and J. Hermans, *Interaction models for water in relation to protein hydration*, Intermolecular Forces (1981), 331–342.
- [BW08] T. A. Bayer and O. Wirths, *Review on the APP/PS1KI mouse model: intra-neuronal A β accumulation triggers axonopathy, neuron loss and working memory impairment*, Genes, Brain and Behavior **7** (2008), 6–11.
- [BW10] Thomas A. Bayer and Oliver Wirths, *Intracellular accumulation of amyloid-beta - A predictor for synaptic dysfunction and neuron loss in Alzheimer's disease*, Frontiers in Aging Neurosci. **2** (2010), no. 8, 1–9.
- [BWB⁺05] S. L. Bernstein, T. Wytttenbach, A. Baumketner, J. E. Shea, G. Bitan, D. B. Teplow, and M. T. Bowers, *Amyloid beta-protein: monomer structure and early aggregation states of A β 42 and its Pro19 alloform*, J. Am. Chem. Soc. **127** (2005), no. 7, 2075–2084.
- [BWD⁺09] Henning Breyhan, Oliver Wirths, Kailai Duan, Andrea Marcello, Jens Rettig, and Thomas A. Bayer, *APP/PS1KI bigenic mice develop early synaptic deficits and hippocampus atrophy*, Acta Neuropathol. **117** (2009), no. 6, 677–685.
- [CAA⁺02] A. Castegna, M. Aksenov, M. Aksenova, V. Thongboonkerd, J. B. Klein, W. M. Pierce, R. Booze, W. R. Markesbery, and D. A. Butterfield, *Proteomic identification of oxidatively modified proteins in Alzheimer's disease brain. part I. creatine kinase BB, glutamine synthase, and ubiquitin carboxy-terminal hydrolase L-1*, Free Radical Biology and Medicine **33** (2002), 562–571.
- [CAG⁺02] O. Combarros, A. Arcaya, M. Guerra, J. Infante, and J. Berciano, *Candidate gene association studies in sporadic Alzheimer's disease*, Dement. Geriatr. Cogn. Disord. **14** (2002), no. 1, 41–54.
- [CAT⁺02] A. Castegna, M. Aksenov, V. Thongboonkerd, J. B. Klein, W. M. Pierce, R. Booze, W. R. Markesbery, and D. A. Butterfield, *Proteomic identification of oxidatively modified proteins in Alzheimer's disease brain. part II. dihydropyrimidinase-related protein 2, alpha-enolase and heat shock cognate 71*, J. Neurochem. **82** (2002), 1524–1532.

- [CBW10] Ditte Z. Christensen, Thomas A. Bayer, and Oliver Wirths, *Intracellular A β triggers neuron loss in the cholinergic system of the APP/PS1KI mouse model of Alzheimer's disease*, Neurobiology of Aging **31** (2010), no. 7, 1153–1163.
- [CC78] C. Charalambous and A. R. Conn, *An efficient method to solve the minimax problem directly*, SIAM J. Numer. Anal. **15** (1978), no. 1, 162–178.
- [CCC⁺09] Raffaella Colombo, Angelo Carotti, Marco Catto, Marco Racchi, Cristina Lanni, Laura Verga, Gabriele Caccialanza, and Ersilia De Lorenzi, *CE can identify small molecules that selectively target soluble oligomers of amyloid β protein and display antifibrillogenic activity*, Electrophoresis. **30** (2009), no. 8, 1418–1429.
- [CDFG04] Feng Chen, Della David, Alessandra Ferrari, and Jurgen Gotz, *Posttranslational modifications of tau - role in human tauopathies and modeling in transgenic animals*, Current Drug Targets **13** (2004), no. 6, 503–515.
- [CF08] A. Crespo and A. Fernandez, *Induced disorder in protein-ligand complexes as a drug-design strategy*, Molecular Pharmaceutics **5** (2008), no. 3, 430–437.
- [CFN⁺10] Anna Maria Calella, Mélissa Farinelli, Mario Nuvolone, Osvaldo Mirante, Rita Moos, Jeppe Falsig, Isabelle M. Mansuy, and Adriano Aguzzi, *Prion protein and A β -related synaptic toxicity impairment*, no. 8, 306–314.
- [CHB⁺02] I. S. Coraci, J. Husemann, J. W. Berman, C. Hulette, J. H. Dufour, G. K. Campanella, A. D. Luster, S. C. Silverstein, and J. B. El-Khoury, *CD36, a class B scavenger receptor, is expressed on microglia in Alzheimer's disease brains and can mediate production of reactive oxygen species in response to beta-amyloid fibrils*, Am. J. Pathol. **160** (2002), no. 1, 101–112.
- [CHH94] Patrick Camilleri, Neville J. Haskins, and David R. Hewlett, *β -cyclodextrin interacts with the Alzheimer amyloid β -A4 peptide*, FEBS Letters **341** (1994), 256–258.
- [CIA⁺09] A. D. Cohen, M. D. Ikonomic, E. E. Abrahamson, W. R. Paljug, S. T. DeKosky, I. M. Lefterov, R. P. Koldamova, L. Shao, M. L. Debnath, N. S. Mason, C. A. Mathis, and W. E. Klunk, *Anti-amyloid effects of small molecule A β -binding agents in PS1/APP mice*, Lett. Drug. Des. Discov. **6** (2009), no. 6, 437.
- [CJMS02] S. W. Chiu, E. Jakobsson, R. Jay Mash, and H. Larry Scott, *Cholesterol-Induced modification in lipid bilayers: A simulation study*, Biophys. J. **83** (2002), 1842–1853.
- [CJN⁺12] Ina Caesar, Maria Jonson, K. Peter R. Nilsson, Stefan Thor, and Per Hammarström, *Curcumin promotes A-beta fibrillation and reduces neurotoxicity in transgenic drosophila*, PLoS One **7** (2012), no. 2, e31424.
- [CKF⁺08] Ditte Zerlang Christensen, Sophie Luise Kraus, Antonius Flohr, Marie-Caroline Cotel, Oliver Wirths, and Thomas A. Bayer, *Transient intraneuronal A β rather than extracellular plaque pathology correlates with neuron loss in the frontal cortex of APP/PS1KI mice*, Acta Neuropathol. **116** (2008), 647–655.
- [CKS12] Keun-A Chang, Hee Jin Kim, and Yoo-Hun Suh, *The role of S100a9 in the pathogenesis of Alzheimer's disease: The therapeutic effects of S100a9 knockdown or knockout*, 27–29.

- [CL10] Brent Cameron and Gary E. Landreth, *Inflammation, microglia, and alzheimer's disease*, *Neurobiology of Disease* **37** (2010), no. 3, 503–509.
- [CLDM12] Sébastien Côté, Rozita Laghaei, Philippe Derreumaux, and Normand Mousseau, *Distinct dimerization for various alloforms of the amyloid-beta protein: $A\beta_{1-40}$, $A\beta_{1-42}$, and $A\beta_{1-40}(D23N)$* , *J. Phys. Chem. B* **116** (2012), 4043–4055.
- [CLZW11] Zhongwen Chang, Yin Luo, Yun Zhang, and Guanghong Wei, *Interactions of $A\beta_{25-35}$ β -barrel-like oligomers with anionic lipid bilayer and resulting membrane leakage: An all-atom molecular dynamics study*, *J. Phys. Chem. B* **115** (2011), no. 5, 1165–1174.
- [CMZ12] Rudy J. Castellani, Paula I. Moreira, and George Perry Xiongwei Zhu, *The role of iron as a mediator of oxidative stress in Alzheimer disease*, *BioFactors* **38** (2012), 133–138.
- [CPSJ09] S. Chiu, S. Pandti, H. L. Scott, and E. Jakobsson, *An improved united atom force field for simulation of mixed lipid bilayers*, *J. Phys. Chem. B* **113** (2009), 2748–2763.
- [Cre92] T. E. Creighton, *Protein folding*, W.H. Freeman & Company, New York, 1992.
- [CSAC⁺05] José R. Criado, Manuel Sanchez-Alavez, Bruno Conti, Jeannie L. Giacchino, Derek N. Wills, Steven J. Henriksen, Richard Race, Jean C. Manson, Bruce Chesebro, and Michael B. A. Oldstone, *Mice devoid of prion protein have cognitive deficits that are rescued by reconstitution of PrP in neurons*, *Neurobiology of Disease* **19** (2005), 255–265.
- [CSAL⁺10] Ditte Z. Christensen, Thomas Schneider-Axmann, Paul J. Lucassen, Thomas A. Bayer, and Oliver Wirths, *Accumulation of intraneuronal $A\beta$ correlates with *ApoE4* genotype*, *Acta Neuropathol.* **119** (2010), 555–566.
- [CTG⁺02] O. Crescenzi, S. Tomaselli, R. Guerrini, S. Salvatori, A. M. D’Ursi, P. A. Temussi, and D. Picone, *Solution structure of the Alzheimer amyloid β -peptide (1-42) in an apolar microenvironment: similarity with a virus fusion domain*, *Eur. J. Biochem.* **269** (2002), 5642–5648.
- [Cue05] A. C. Cuervo, *Intracellular and extracellular Abeta, a tale of two neuropathologies*, *Brain Pathol.* **15** (2005), no. 1, 66–71.
- [CVJ⁺03] S. W. Chiu, S. Vasudevan, Eric Jakobsson, R. Jay Mashl, and H. Larry Scott, *Structure of sphingomyelin bilayers: A simulation study*, *Biophys. J.* **85** (2003), 3624–3635.
- [CW85] R. A. Crowther and C. M. Wischik, *Image reconstruction of the Alzheimer paired helical filament.*, *The EMBO journal* **4** (1985), 3661–3665.
- [CZF07] J. P. Chen, X. Zhang, and A. Fernandez, *Molecular basis for specificity in the druggable kinome: sequence-based analysis*, *Bioinformatics* **23** (2007), no. 5, 563–572.
- [DAB⁺93] R. Duara, R. F. Alberola, W. W. Barker, D. A. Loewenstein, M. Zatzinsky, C. E. Eisdorfer, and G. B. Weinberg, *A comparison of familial and sporadic Alzheimer's disease*, *Neurobiology* **43** (1993), no. 7, 1377–1384.

- [DB09a] C. H. Davis and M. L. Berkowitz, *Interaction between amyloid- β (1-42) peptide and phospholipid bilayers: A molecular dynamics study*, Biophys. J. **96** (2009), 785–797.
- [DB09b] Charles H. Davis and Max L. Berkowitz, *Structure of the Amyloid- β (1-42) monomer absorbed to model phospholipid bilayers: A molecular dynamics study*, J. Phys. Chem. B **113** (2009), no. 43, 14480–14486.
- [DBB⁺03] F. Ding, J. M. Borreguero, S. V. Buldyrey, H. E. Stanley, and N. V. Dokholyan, *Mechanism for the alpha-helix to beta-hairpin transition*, Proteins **53** (2003), 220–228.
- [DDZ⁺11] Jiangfeng Dua, Jiangfeng Du, Lina Zhao, Liming Wang, Ying Liu, Denghua Li, Yanlian Yang, Ruhong Zhou, Yuliang Zhao, Zhifang Chai, and Chunying Chen, *Binding of blood proteins to carbon nanotubes reduces cytotoxicity*, Proc. Natl. Acad. Sci. U.S.A. **108** (2011), no. 41, 16968–16973.
- [DeL11] W. L. DeLano, *The PyMOL molecular graphics system, version 1.4*, The PyMOL Molecular Graphics System, Version 1.4, Schrödinger, LLC. 2011, 2011.
- [DGJ⁺99] Xavier Daura, Karl Gademann, Bernhard Jaun, Dieter Seebach, Wilfred F. van Gunsteren, and Alan E. Mark, *Peptide folding: When simulation meets experiment*, Angew. Chem. Int. Ed. **38** (1999), 236–240.
- [DGPB09] Adama Diarra, Thangiah Geetha, Pamela Potter, and Jeganathan Ramesh Babu, *Signaling of the neurotrophin receptor p75 in relation to Alzheimer’s disease*, Biochem. Biophys. Res. Commun. **390** (2009), no. 3, 352–356.
- [DKBN11] Todd M. Doran, Alissa J. Kamens, Nadia K. Byrnes, and Bradley L. Nilsson, *Role of amino acid hydrophobicity, aromaticity and molecular volume on IAPP(20-29) amyloid self-assembly*, Proteins: Struct. Funct. Bioinf. to appear (2011).
- [DN06] Michael R. D’Andrea and Robert G. Nagele, *Targeting the alpha 7 nicotinic acetylcholine receptor to reduce amyloid accumulation in Alzheimer’s disease pyramidal neurons*, Current Pharmaceutical Design **12** (2006), 677–684.
- [DSB⁺10] Jessica M. Mc Donald, George M. Savva, Carol Brayne, Alfred T. Welzel, Gill Forster, Ganesh M. Shankar, Dennis J. Selkoe, Paul G. Ince, and Dominic M. Walsh, *The presence of sodium dodecyl sulphate-stable A β dimers is strongly associated with alzheimer-type dementia*, Brain **133** (2010), no. 5, 1328–1341.
- [DSJ⁺09] Juan Carlos Diaz, Olga Simakova, Kenneth A. Jacobson, Nelson Arispe, and Harvey B. Pollard, *Small molecule blockers of the Alzheimer A β calcium channel potentially protect neurons from A β cytotoxicity*, Proc. Natl. Acad. Sci. U.S.A. **106** (2009), no. 9, 3348–3353.
- [DSR⁺04] Isabella Daidone, Fabio Simona, Danilo Roccatano, Ricardo A. Broglia, Guido Tiana, Giorgio Colombo, and Alfredo Di Nola1, *β -Hairpin conformation of fibrillogenic peptides: Structure and α - β transition mechanism revealed by molecular dynamics simulations*, Proteins: Structure, Function, and Bioinformatics **57** (2004), no. 1, 198–204.

- [DWN03] J. J. Dougherty, J. Wu, and R. A. Nichols, *β -amyloid regulation of presynaptic nicotinic receptors in rat hippocampus and neocortex*, J. Neurosci. **23** (2003), 6740–6747.
- [EGK⁺01] John Ellson, Emden Gansner, Lefteris Koutsofios, Stephen North, Gordon Woodhull, Short Description, and Lucent Technologies, *Graphviz-open source graph drawing tools*, Lecture Notes in Computer Science, Springer-Verlag, 2001, pp. 483–484.
- [EPB⁺95] U. Essmann, L. Perera, M. L. Berkowitz, T. Darden, H. Lee, and L. G. Pedersen, *A smooth particle mesh Ewald method*, J. Chem. Phys. **103** (1995), 8577–8593.
- [EW02] G. Evin and A. Weidemann, *Biogenesis and metabolism of Alzheimer’s disease abeta amyloid peptides*, Peptides **23** (2002), no. 7, 1285–1297.
- [FCCN05] Dagmar Flöck, Stefano Colacino, Giorgio Colombo, and Alfredo Di Nola, *Misfolding of the Amyloid β -protein: A molecular dynamics study*, Proteins: Structure, Function, and Bioinformatics **62** (2005), no. 1, 183–192.
- [FFS10] C. M. Fraser, A. Fernández, and L. R. Scott, *Advances in computational biology*, ch. 53, pp. 473–479, Springer, New York, 2010.
- [FFS11] C. M. Fraser, A. Fernández, and L. R. Scott, *WRAPPA: A simple screening tool for candidate dehydron identification*, University of Chicago Technical Report TR-2011-05 (2011).
- [FLZ⁺10] Rodrigo A. Fuentealba, Qiang Liu, Juan Zhang, Takahisa Kanekiyo, Xiaoyan Hu, Jin-Moo Lee, Mary LaDu, and Guojun Bu, *Low-density lipoprotein receptor-related protein 1 (LRP1) mediates neuronal A β 42 uptake and lysosomal trafficking*, PLoS One **5** (2010), no. 7, e11884.
- [FS03] Ariel Fernández and Ridgway Scott, *Dehydron: A structurally encoded signal for protein interaction*, Biophys. J. **85** (2003), no. 3, 1914–1928.
- [FSTW00] D. B. Flaherty, J. P. Soria, H. G. Tomasiewicz, and J. G. Wood, *Phosphorylation of human tau protein by microtubule-associated kinases: GSK3 β and cdk5 are key participants*, J. Neurosci. Res. **62** (2000), 463–472.
- [FT02] Y. Fezoui and D. B. Teplow, *Kinetic studies of amyloid β -protein fibril assembly: DIFFERENTIAL EFFECTS OF α -HELIX STABILIZATION*, J. Biol. Chem. **277** (2002), no. 40, 36948–36954.
- [FTR⁺10] Ralf P. Friedrich, Katharina Tepper, Raik Röncke, Malle Soom, Martin Westermann, Klaus Reymann, Christoph Kaether, and Marcus Fändrich, *Mechanism of amyloid plaque formation suggests an intracellular basis of A β pathogenicity*, Proc. Natl. Acad. Sci. U.S.A. **107** (2010), no. 5, 1942–1947.
- [Fuk96] Yasumasa Fukushima, *Sequence effects on helix-sheet conformational transitions of designed amphiphilic peptides*, Bulletin of the Chemical Society of Japan **69** (1996), no. 3, 701–708.
- [FVB⁺09] Fernanda G. De Felice, Marcelo N. N. Vieira, Theresa R. Bomfim, Helena Decker, Pauline T. Velasco, Mary P. Lambert, Kirsten L. Viola, Wei-Qin Zhao, Sergio T. Ferreira, and William L. Klein, *Protection of synapses against Alzheimer’s-linked*

- toxins: *Insulin signaling prevents the pathogenic binding of A β oligomers*, Neuroscience **106** (2009), no. 6, 1971–1976.
- [FvBMM00] Peter Friedhoff, Martin von Bergen, Eva-Maria Mandelkow, and Eckhard Mandelkow, *Structure of tau protein and assembly into paired helical filaments*, Biochimica et Biophysica Acta (BBA) - Protein & Proteomics **1502** (2000), no. 1, 122–132.
- [FWVR07] Dirk Foell, Helmut Wittkowski, Thomas Vogl, and Johannes Roth, *S100 proteins expressed in phagocytes: a novel group of damage-associated molecular pattern molecules*, Journal of Leukocyte Biology **81** (2007), no. 1, 28–37.
- [FY10] Jacques Fantini and Nouara Yahi, *Molecular insights into amyloid regulation by membrane cholesterol and sphingolipids: common mechanisms in neurodegenerative diseases*, Expert Reviews in Molecular Medicine. **12** (2010), e27.
- [GABR⁺07] M. Garcia-Alloza, L. A. Borrelli, A. Rozkalne, B. T. Hyman, and B. J. Bacskai, *Curcumin labels amyloid pathology in vivo, disrupts existing plaques, and partially restores distorted neurites in an Alzheimer mouse model*, J. Neurochem. **102** (2007), 1095–1104.
- [Gaz02] Ehud Gazit, *A possible role for π -stacking in the self-assembly of amyloid fibrils*, FASEB J **16** (2002), 77–83.
- [GBS⁺08] Gerald P. Gellermann, Helga Byrnes, Andreas Striebinger, Kathrin Ullrich, Reinhold Mueller, Heinz Hillen, and Stefan Barghorn, *A β -globulomers are formed independently of the fibril pathway*, Neurobiology of Disease **30** (2008), no. 2, 212–220.
- [GD59] H. Gibbs and E. A. Dimarzio, *Statistical mechanics of helix-coil transitions in biological macromolecules*, J. Chem. Phys. **30** (1959), 271–282.
- [GL00] M. S. Goldberg and P. T. Lansbury, *Is there a cause-and-effect relationship between α -synuclein fibrillization and Parkinson’s disease?*, Nature Cell Biol. **2** (2000), E115–E119.
- [Gla05] Charles C. Glabe, *Amyloid accumulation and pathogenesis of Alzheimer’s disease: significance of monomeric, oligomeric and fibrillar A β* , Alzheimer’s Disease (J. Robin Harris and Falk Fahrenholz, eds.), Subcellular Biochemistry, vol. 38, Springer US, 2005, pp. 167–177.
- [GLQC12] Boon Chong Goh, Hon Wai Leong, Xiaohui Qu, and Lock Yue Chew, *The mechanism of antiparallel β -sheet formation based on conditioned self-avoiding walk*, Eur. Phys. J. E **35** (2012), no. 4, 27.
- [GMF⁺05] J. C. Gordon, J. B. Myers, T. Folta, V. Shoja, L. S. Heath, and A. Onufriev, *H++: a server for estimating pKas and adding missing hydrogens to macromolecules*, Nucleic Acids. Res. **33** (2005), 368–371.
- [GQ10] Jie Geng and Xiaogang Qu, *Recent progress report on DNA B-Z transition modulated by rare earth-amino acid complex and Alzheimer’s disease amyloid beta*, Journal of Rare Earths **28** (2010), no. 6, 820–823.
- [GQCH] B. C. Goh, X. Qu, L. Y. Chew, and K. Huang, *An insight in the mechanism of antiparallel β -sheet formation*.

- [GRF⁺06] Margaret Gatz, Chandra A. Reynolds, Laura Fratiglioni, Boo Johansson, James A. Mortimer, Stig Berg, Amy Fiske, and Nancy L. Pedersen, *Role of genes and environments for explaining Alzheimer disease*, Arch. Gen. Psychiatry **63** (2006), no. 2, 168–174.
- [GTN⁺00] G. K. Gouras, J. Tsai, J. Naslund, B. Vincent, M. Edgar, F. Checler, J. P. Greenfield, V. Haroutunian, J. D. Buxbaum, H. Xu, P. Greengard, and N. R. Relkin, *Intraneuronal abeta42 accumulation in human brain*, Am. J. Pathol. **156** (2000), no. 1, 15–20.
- [GTTCZ10] Gunnar K. Gouras, Davide Tampellini, Reisuke H. Takahashi, and Estibaliz Capetillo-Zarate, *Intraneuronal β -amyloid accumulation and synapse pathology in Alzheimer’s disease*, Acta Neuropathol. **119** (2010), no. 5, 523–541.
- [GZRQ10a] J. Geng, C. Zhao, J. Ren, and X. Qu, *Alzheimer’s disease amyloid beta converting left-handed Z-DNAs back to right-handed B-form*, Chem. Commun. **46** (2010), 7187–7189.
- [GZRQ10b] Jie Geng, Chuanqi Zhao, Jinsong Ren, and Xiaogang Qu, *Alzheimer’s disease amyloid beta converting left-handed Z-DNA back to right-handed B-form*, Chem. Commun. **46** (2010), 7187–7189.
- [Ha09] Ya Ha, *Structure and mechanism of intramembrane protease*, Semin. Cell Dev. Biol. **20** (2009), no. 2, 240–250.
- [HBBF97] B. Hess, H. Bekker, H. J. C. Berendsen, and J. G. E. M. Fraaije, *LINCS: A linear constraint solver for molecular simulations*, J. Comput. Chem. **113** (1997), 1463–1472.
- [HBD⁺06] A. S. H’erard, L. Besret, A. Dubois, J. Dauguet, T. Delzescaux, P. Hantraye, G. Bonvento, and K. L. Moya, *siRNA targeted against amyloid precursor protein impairs synaptic activity in vivo*, Neurobiology of Aging **27** (2006), no. 12, 1740–1750.
- [HCP⁺06] Kazuhiro Honda, Gemma Casadesus, Robert B. Petersen, George Perry, and Mark A. Smith, *Oxidative stress and redox-active iron in Alzheimer’s disease*, Annals of the New York Academy of Sciences **1012** (2006), 179–182.
- [HCZ⁺09] C. Holmes, C. Cunningham, E. Zotova, J. Woolford, C. Dean, S. Kerr, D. Culliford, and V. H. Perry, *Systemic inflammation and disease progression in Alzheimer disease*, Neurology **73** (2009), no. 10, 768–774.
- [HDS96] W. Humphrey, A. Dalke, and K. Schulten, *VMD - visual molecular dynamics*, J. Mol. Graphics **14** (1996), 33–38.
- [Hel10] Kira Heller, *Targeting misfolded proteins to fight neurodegenerative diseases*, PLoS Biol. **8** (2010), 1.
- [Hem10] *Cytochrome c biogenesis: the Ccm system*, Trends in Microbiology **18** (2010), no. 6, 266–274.
- [HG99] B. Halliwell and J. M. Gutterer, *Free radicals in biology and medicine*, Oxford University Press, USA, 1999.

- [HH08] Sikander Hayat and Volkhard Helms, *Towards understanding the early events in the conformational transition of amyloid beta peptides*, Computational Biophysics to Systems Biology (CBSB08) **40** (2008), 227–230.
- [Hjo99] Trond Hjorteland, *THE ACTION VARIATIONAL PRINCIPLE IN COSMOLOGY*, Master’s thesis, University of Oslo, 1999.
- [HKZ⁺10] Caterina M. Hernandez, Rakez Kaye, Hui Zheng, J. David Sweatt, and Kelly T. Dineley, *Loss of $\alpha 7$ nicotinic receptors enhances β -amyloid oligomer accumulation, exacerbating early-stage cognitive decline and septohippocampal pathology in a mouse model of Alzheimer’s disease*, J. Neurosci. **30** (2010), no. 7, 2442–2453.
- [HL08] L. Hong and J. Lei, *Statistical mechanical model for helix-sheet-coil transitions in homopolypeptides*, Phys. Rev. E **78** (2008), 051904.
- [HLL⁺11] Han-Chang Huang, Chang-Jun Lin, Wen-Juan Liu, Rui-Rui Jiang, and Zhao-Feng Jiang, *Dual effects of curcumin on neuronal oxidative stress in the presence of Cu(II)*, Food and Chemical Toxicology **49** (2011), no. 7, 1578–1583.
- [HLRR09] Hyang-Sook Hoe, Kea Joo Lee, Rosalind S.E. Carney, Jiyeon Lee, Alexandra Markova, Ji-Yun Lee, Brian W. Howell, Bradley T. Hyman, Daniel T.S. Pak, Guojun Bu, and G. William Rebeck, *Interaction of reelin with amyloid precursor protein promotes neurite outgrowth*, J. Neurosci. **29** (2009), no. 23, 7459–7473.
- [HME⁺95] Zheng Hui, Jiang Minghao, Trumbauer Myrna E., Sirinathsinghji Dalip J. S., Hopkins Ruth, Smith David W., Heavens Robert P., Dawson Gerard R., Boyce Susan, Conner Michael W., Stevens Karla A., Slunt Hilda H., Sisodia Sangram S., Chen Howard Y., and Van der Ploeg Lex H. T., *β -amyloid precursor protein-deficient mice show reactive gliosis and decreased locomotor activity*, Cell **81** (1995), no. 4, 525–531.
- [HMH06] Shangwei Hou, Mark F Reynolds, Frank T Horrigan, Stefan H Heinemann, and Toshinori Hoshi, *Reversible binding of heme to proteins in cellular signal transduction*, Acc. Chem. Res. **39** (2006), no. 12, 918–924.
- [HO07] Michael T. Heneka and M. K. O’Banion, *Inflammatory processes in alzheimer’s disease*, Journal of Neuroimmunology **184** (2007), 69–91.
- [Hoo85] W. G. Hoover, *Canonical dynamics: Equilibrium phase space distributions*, Phys. Rev. A **31** (1985), 1695–1697.
- [HPC⁺08] H. Hatcher, R. Planalp, J. Cho, F. M. Tortia, and S. V. Torti, *Curcumin: From ancient medicine to current clinical trials*, Cellular and Molecular Life Sciences **65** (2008), no. 11, 1631–1652.
- [HQ07] Haijia Yu, Jinsong Ren and Xiaogang Qu, *Time-dependent DNA condensation induced by amyloid β -peptide*, Biophys. J. **92** (2007), no. 1, 185–191.
- [HRS⁺10] Brian R. Hoover, Miranda N. Reed, Jianjun Su, Rachel D. Penrod, Linda A. Kotilinek, Marianne K. Grant, Rose Pitstick, George A. Carlson, Lorene M. Lanier, Li-Lian Yuan, Karen H. Ashe, and Dezhi Liao, *Tau mislocalization to dendritic spines mediates synaptic dysfunction independently of neurodegeneration*, Neuron **68** (2010), no. 6, 1067–1081.

- [HS90] Christopher A. Hunter and Jeremy K. M. Sanders, *The nature of pi-pi interactions*, J. Am. Chem. Soc. **112** (1990), no. 14, 5525–5534.
- [HS02a] J. Hardy and D. J. Selkoe, *The amyloid hypothesis of Alzheimer’s disease: progress and problems on the road to therapeutics*, Science **297** (2002), no. 5580, 353–356.
- [HS02b] Günter Fritz Claus W. Heizmann and Beat W. Schäfer, *S100 proteins: structure, functions and pathology*, Frontiers in Bioscience **7** (2002), 1356–1368.
- [HS07] Christian Haass and Dennis J. Selkoe, *Soluble protein oligomers in neurodegeneration: lessons from the Alzheimer’s amyloid β -peptide*, Nat. Rev. Mol. Cell Biol. **8** (2007), 101–112.
- [HSM⁺03] Minako Hoshi, Michio Sato, Shinichiro Matsumoto, Akihiko Noguchi, Kaori Yasutake, Natsuko Yoshida, and Kazuki Sato, *Spherical aggregates of β -amyloid (amylospheroid) show high neurotoxicity and activate tau protein kinase I/glycogen synthase kinase-3 β* , Proc. Natl. Acad. Sci. U.S.A. **100** (2003), no. 11, 6370–6375.
- [Hua07] K. Huang, *Conditioned self-avoiding walk (csaw): stochastic approach to protein folding*, Biophys. Rev. Lett. (2007), no. 2, 139–154.
- [Hua08] K. Huang, *Protein folding as a physical stochastic process*, Biophys. Rev. Lett. **3** (2008), 1–2.
- [HWLL97] James D. Harper, Stanislaus S. Wong, Charles M. Lieber, and Peter T. Lansbury, *Observation of metastable abeta amyloid protofibrils by atomic force microscopy*, Chem. Biol. **4** (1997), 119–125.
- [HWY⁺99] D. M. Hartley, D. M. Walsh, C. P. Ye, T. Diehl, S. Vasquez, P. M. Vassilev, D. B. Teplow, and D. J. Selkoe, *Protofibrillar intermediates of amyloid beta-protein induce acute electrophysiological changes and progressive neurotoxicity in cortical neurons*, J. Neurosci. **19** (1999), no. 20, 8876–8884.
- [IBTY08] P. Inbar, M. R. Bautista, S. A. Takayama, and J. Yang, *Assay to screen for molecules that associate with Alzheimer’s related beta-amyloid fibrils*, Analytical Chemistry **80** (2008), no. 9, 3502–3506.
- [IKA07] Helgi I. Ingolfsson, Roger E. Koeppe, and Olaf S. Andersen, *Curcumin is a modulator of bilayer material properties*, BIOCHEM **46** (2007), no. 36, 10384–10391.
- [IKG⁺10] M. Ionov, B. Klajnert, K. Gardikis, S. Hatziantoniou, B. Palecz, B. Salakhutdinov, J. Cladera, M. Zamaraeva, C. Demetzos, and M. Bryszewska, *Effect of amyloid beta peptides A β_{1-28} and A β_{25-40} on model lipid membranes*, J. Therm. Anal. Calorim. **99** (2010), no. 3, 741–747.
- [IS05] John J. Irwin and Brian K. Shoichet, *ZINC-A free database of commercially available compounds for virtual screening*, J. Chem. Inf. Model **45** (2005), no. 1, 177–182.
- [IYF⁺02] Hiroshi Itou, Min Yao, Ikuko Fujita, Nobuhisa Watanabe, Masaki Suzuki, Jun Nishihira, and Isao Tanaka, *The crystal structure of human MRP14 (S100A9), a Ca²⁺-dependent regulator protein in inflammatory process*, J. Mol. Biol. **316** (2002), no. 2, 265–276.

- [JAR⁺10a] Hyunbum Jang, Fernando Teran Arce, Srinivasan Ramachandran, Ricardo Capone, Rushana Azimova, Bruce L. Kagan, Ruth Nussinov, and Ratnesh Lal, *Truncated β -amyloid peptide channels provide an alternative mechanism for Alzheimer’s disease and down syndrome*, Proc. Natl. Acad. Sci. U.S.A. **107** (2010), no. 14, 6538–6543.
- [JAR⁺10b] Hyunbum Jang, Fernando Teran Arce, Srinivasan Ramachandran, Ricardo Capone, Ratnesh Lal, low asterisk, and Ruth Nussinov, *β -barrel topology of Alzheimer’s β -Amyloid ion channels*, J. Mol. Biol. **404** (2010), no. 5, 917–934.
- [JAR⁺10c] Hyunbum Jang, Fernando Teran Arce, Srinivasan Ramachandran, Ricardo Capone, Ratnesh Lal, and Ruth Nussinov, *Structural convergence among diverse, toxic beta-sheet ion channels*, J. Phys. Chem. B **114** (2010), 9445–9451.
- [JAW⁺10] Dong-Gyu Jo, Thiruma V. Arumugam, Ha-Na Woo, Jong-Sung Park, Sung-Chun Tang, Mohamed Mughal, Dong-Hoon Hyun, Jun-Hyung Park, Yun-Hyung Choi, A-Ryeong Gwon, Simonetta Camandola, Aiwu Cheng, Huaibin Cai, Weihong Song, William R. Markesbery, and Mark P. Mattson, *Evidence that γ -secretase mediates oxidative stress-induced β -secretase expression in Alzheimer’s disease*, Neurobiology of Aging **31** (2010), no. 6, 917–925.
- [JGA⁺92] G. Joslin, G. L. Griffin, A. M. August, S. Adams, R. J. Fallon, R. M. Senior, and D. H. Perlmutter, *The serpin-enzyme complex (SEC) receptor mediates the neutrophil chemotactic effect of alpha-1 antitrypsin-elastase complexes and amyloid-beta peptide*, J. Clin. Invest. **90** (1992), no. 3, 1150–1154.
- [JLSM11] Ping Jiang, Wei Feng Li, Joan-Emma Shea, and Yuguang Mu, *Resveratrol inhibits the formation of multiple-layered β -sheet oligomers of the human islet amyloid polypeptide segment 22-27*, Biophys. J. **100** (2011), no. 6, 1550–1558.
- [JS06] S. Jang and S. Shin, *Amyloid β -peptide oligomerization in silico: dimer and trimer*, J. Phys. Chem. B **110** (2006), no. 5, 1955–1958.
- [JXM09] P. Jiang, W. X. Xu, and Y. G. Mu, *Amyloidogenesis abolished by proline substitutions but enhanced by lipid binding*, PLoS Comput. Biol. **5** (2009), no. 4, e1000357.
- [JZLN08] Hyunbum Jang, Jie Zheng, Ratnesh Lal, and Ruth Nussinov, *New structures help the modeling of toxic amyloid β ion channels*, Trends Biochem. Sci. **33** (2008), no. 2, 91–100.
- [JZV⁺95] D. Jayawickrama, S. Zink, Velde D. Vander, R. I. Effiong, and C. K. Larive, *Conformational analysis of the β -amyloid peptide fragment β (12-28)*, J. Biomol. Struct. Dyn. **13** (1995), no. 2, 229–244.
- [Kag05] B. L. Kagan, *Amyloidosis and protein folding*, Science **307** (2005), 42–43.
- [KB05] Sanjay Kumar and Uday Bandyopadhyay, *Free heme toxicity and its detoxification systems in human*, Toxicol. Lett. **157** (2005), 175–188.
- [KBP⁺11] Amit Kumar, Rebekah L. Bullard, Pritesh Patel, Lea C. Paslay, Dipti Singh, Ewa A. Bienkiewicz, Sarah E. Morgan, and Vijayaraghavan Rangachari, *Non-Esterified fatty acids generate distinct low-molecular weight Amyloid- β ($A\beta_{42}$) oligomers along pathway different from fibril formation*, PLoS One **6** (2011), no. 4, e18759.

- [KBS07] Ingo P. Korndörfer, Florian Brueckner, and Arne Skerra, *The crystal structure of the human (S100A8/S100A9)₂ heterotetramer, calprotectin, illustrates how conformational changes of interacting α -helices can determine specific association of two EF-hand proteins*, J. Mol. Biol. **370** (2007), 887–898.
- [KBT02] M. D. Kirkitadze, G. Bitan, and D. B. Teplow, *Paradigm shifts in Alzheimer’s disease and other neurodegenerative disorders: the emerging role of oligomeric assemblies*, J. Neurosci. Res. **69** (2002), 567–577.
- [KHA⁺02] Bruce L. Kagan, Yutaka Hirakura, Rustam Azimov, Rushana Azimova, and Meng-Chin Lin, *The channel hypothesis of Alzheimer’s disease: current status*, Peptides **23** (2002), no. 7, 1311–1315.
- [KHS⁺08] Mary Griffin Krone, Lan Hua, Patricia Soto, Ruhong Zhou, B. J. Berne., and Joan-Emma Shea, *Role of water in mediating the assembly of Alzheimer amyloid A β 16 – 22 protofilaments*, no. 33, 11066–11072.
- [KiNY⁺02] Atsuko Kakio, Sei ichi Nishimoto, Katsuhiko Yanagisawa, Yasunori Kozutsumi, and Katsumi Matsuzaki, *Interactions of amyloid β -protein with various gangliosides in raft-like membranes: Importance of GM1 ganglioside-bound form as an endogenous seed for Alzheimer amyloid?*, Biochemistry **41** (2002), no. 23, 7385–7390.
- [KJ06] Y.-M. Kao and T. F. Jiang, *Transition temperatures of the trapped ideal spinor Bose gas*, Eur. Phys. J. D **40** (2006), 363–269.
- [KK05] M. D. Kirkitadze and A. Kowalska, *Molecular mechanisms initiating amyloid beta-fibril formation in Alzheimer’s disease*, Acta Biochim. Pol. **52** (2005), no. 2, 417–423.
- [KKJC06] Maheshwari R. K., Singh A. K., Gaddipati J., and Srimal R. C, *Multiple biological activities of curcumin: a short review*, Life Sci. **78** (2006), 2081.
- [KMK⁺11] Tomoko Kurata, Kazunori Miyazaki, Miki Kozuki, Violeta-Lukic Panin, Nobutoshi Morimoto, Yasuyuki Ohta, Makiko Nagai, Yoshio Ikeda, Tohru Matsuura, and Koji Abe, *Atorvastatin and pitavastatin improve cognitive function and reduce senile plaque and phosphorylated tau in aged APP mice*, Brain Research **1371** (2011), 161–171.
- [KMS11] E. Karran, M. Mercken, and B. De Strooper, *The amyloid cascade hypothesis for Alzheimer’s disease: an appraisal for the development of therapeutics*, Nature Reviews Drug Discovery **10** (2011), no. 9, 698–712.
- [KNKM03] A. Kakio, S. I. Nishimoto, Y. Kozotsumi, and K. Matsuzaki, *Formation of a membrane-active form of amyloid β -protein in raft-like model membranes*, Biochem. Biophys. Res. Commun. **303** (2003), 514–518.
- [KNNM10] Helmut W. Kessels, Louis N. Nguyen, Sadegh Nabavi, and Roberto Malinow, *The prion protein as a receptor for amyloid- β* , Nature **466** (2010), E3–E4.
- [KRN⁺09] Juliet K. Knowles, Jayakumar Rajadas, Thuy-Vi V. Nguyen, Tao Yang, Melbourne C. LeMieux, Lilith Vander Griend, Chihiro Ishikawa, Stephen M. Massa, Tony Wyss-Coray, and Frank M. Longo, *The p75 neurotrophin receptor promotes amyloid- β (1-42)-induced neuritic dystrophy in vitro and in vivo*, J. Neurosci. **29** (2009), no. 34, 10627–10637.

- [KS83] W. Kabsch and C. Sander, *Dictionary of protein secondary structure: pattern recognition of hydrogen-bonded and geometrical features*, Biopolymers **22** (1983), no. 12, 2577–637.
- [KYT⁺04] A. Kakio, Y. Yano, D. Takai, Y. Kuroda, O. Matsumoto, Y. Kozutsumi, and K. Matsuzaki, *Interaction between amyloid beta-protein aggregates and membranes*, J. Pept. Sci. **10** (2004), no. 10, 612–21.
- [KZT⁺08] Houman Khosravani, Yunfeng Zhang, Shigeki Tsutsui, Shahid Hameed, Christophe Altier, Jawed Hamid, Lina Chen, Michelle Villemare, Zenobia Ali, Frank R. Jirik, and Gerald W. Zamponi, *Prion protein attenuates excitotoxicity by inhibiting NMDA receptors*, J. Cell Biol. **181** (2008), 551–565.
- [LaF10] Frank M. LaFerla, *Pathways linking A β and tau pathologies*, Biochem. Soc. Trans. **38** (2010), 993–995.
- [Lan99] P. T. Lansbury, *Evolution of amyloid: What normal protein folding may tell us about fibrillogenesis and disease*, Proc. Natl. Acad. Sci. U.S.A. **96** (1999), 3342–3344.
- [LB08] Justin A. Lemkul and David R. Bevan, *A comparative molecular dynamics analysis of the amyloid β -peptide in a lipid bilayer*, Arch. Biochem. Biophys. **470** (2008), no. 1, 54–63.
- [LB10] Justin A. Lemkul and David R. Bevan, *Assessing the stability of Alzheimer’s amyloid protofibrils using molecular dynamics*, J. Phys. Chem. B **114** (2010), no. 4, 1652–1660.
- [LBC⁺98] M. P. Lambert, A. K. Barlow, B. A. Chromy, C. Edwards, R. Freed, M. Liosatos, T. E. Morgan, I. Rozovsky, B. Trommer, K. L. Viola, P. Wals, C. Zhang, C. E. Finch, G. A. Krafft, and W. L. Klein, *Diffusible, nonfibrillar ligands derived from A β_{1-42} are potent central nervous system neurotoxins*, Proc. Natl. Acad. Sci. U.S.A. **95** (1998), no. 11, 6448–6453.
- [LBF⁺07] Pascale N. Lacor, Maria C. Buniel, Paul W. Furlow, Antonio Sanz Clemente, Pauline T. Velasco, Margaret Wood, Kirsten L. Viola, and William L. Kleinaalina, *A β oligomer-induced aberrations in synapse composition, shape, and density provide a molecular basis for loss of connectivity in Alzheimer’s disease*, J. Neurosci. **27** (2007), no. 4, 796–807.
- [LBL01] H. Lin, R. Bhatia, and R. Lal, *Amyloid beta protein forms ion channels: implications for Alzheimer’s disease pathophysiology*, FASEB J. **15** (2001), no. 13, 2433–2444.
- [LCH10] H. W. Leong, L. Y. Chew, and K. Huang, *Normal modes and phase transition of the protein chain based on the hamiltonian formalism*, Phys. Rev. E **82** (2010), 011915.
- [Lea01] Andrew R. Leach, *Molecular modelling: Principles and applications*, second ed., Prentice Hall, 2001.
- [Lev83] M. Levitt, *Computer simulation of DNA double helix dynamics*, Cold Spring Harbor Symp. Quant. Biol. **47** (1983), 251–261.

- [LF06] E. Luttmann and G. Fels, *All-atom molecular dynamics studies of the full-length β -amyloid peptides*, Chem. Phys. **323** (2006), 138–147.
- [LGN⁺09] Juha Laurén, David A. Gimbel, Haakon B. Nygaard, John W. Gilbert, and Stephen M. Strittmatter, *Cellular prion protein mediates impairment of synaptic plasticity by amyloid- β oligomers*, Nature **457** (2009), 1128–1132.
- [LGO07] Frank M. LaFerla¹, Kim N. Green¹, and Salvatore Oddo, *Intracellular amyloid- β in Alzheimer’s disease*, Nature Reviews Neuroscience **8** (2007), 499–509.
- [LHP⁺02] Hilal A. Lashuel, Dean Hartley, Benjamin M. Petre, Thomas Walz, and Peter T. Lansbury, *Neurodegenerative disease: Amyloid pores from pathogenic mutations*, Nature **418** (2002), 291.
- [LHvdS01] E. Lindahl, B. Hess, and D. van der Spoel, *Gromacs 3.0: A package for molecular simulation and trajectory analysis*, J. Mol. Model **7** (2001), 306–317.
- [LHZB05] Pu Liu, Xuhui Huang, Ruhong Zhou, and B. J. Berne, *Observation of a dewetting transition in the collapse of the melittin tetramer*, Nature **437** (2005), 159–162.
- [LJK⁺11] Shaomin Li, Ming Jin, Thomas Koeglsperger, Nina E. Shephardson, Ganesh M. Shankar, and Dennis J. Selkoe, *Soluble A β oligomers inhibit long-term potentiation through a mechanism involving excessive activation of extrasynaptic NR2B-containing NMDA receptors*, J. Neurosci. **31** (2011), no. 18, 6627–6638.
- [LKB01] Q. S. Liu, H. Kawai, and D. K. Berg, *Beta-amyloid peptide blocks the response of alpha7-containing nicotinic receptors on hippocampal neurons*, Proc. Natl. Acad. Sci. U.S.A. **48** (2001), 4734–4739.
- [LLC⁺08] Guang Liang, XiaoKun Li, Li Chen, Shulin Yang, Xudong Wu, Elaine Studer, Emily Gurley, Philip B. Hylemon, Faqing Ye, Yueru Li, and Huiping Zhou, *Synthesis and anti-inflammatory activities of mono-carbonyl analogues of curcumin*, Bioorg. Med. Chem. Lett. **18** (2008), no. 4, 1525–1529.
- [LM11] Aaron Y. Lai and JoAnne McLaurin, *Mechanisms of amyloid-beta peptide uptake by neurons: The role of lipid rafts and lipid raft-associated proteins*, International Journal of Alzheimer’s Disease **2011** (2011), 548380.
- [LMK⁺09] Gang Liu, Ping Men, Wataru Kudo, George Perry, and Mark A. Smith, *Nanoparticle-chelator conjugates as inhibitors of amyloid- β aggregation and neurotoxicity: A novel therapeutic approach for Alzheimer disease*, Neuroscience Letters **455** (2009), no. 3, 187–190.
- [LR61] S. Lifson and A. Roig, *On the theory of helix-coil transition in polypeptides*, J. Chem. Phys. **34** (1961), 1963.
- [LRA⁺05] Thorsten Lührs, Christiane Ritter, Marc Adrian, Dominique RiekLoher, Bernd Bohrmann, Heinz DÄ¶beli, David Schubert, and Roland Riek, *3D structure of Alzheimer’s amyloid- β (1-42) fibrils*, Proc. Natl. Acad. Sci. U.S.A. **102** (2005), no. 48, 17342–17347.
- [LRT⁺98] M. A. Lovell, J. D. Robertson, W. J. Teesdale, J. L. Campbell, and W. R. Markesbery, *Copper, iron and zinc in Alzheimer’s disease senile plaques*, J. Neurol. Sci. **158** (1998), 47–52.

- [LSK10] V. Leoni, A. Solomon, and M. Kivipelto, *Links between ApoE brain cholesterol metabolism, tau and amyloid β -peptide in patients with cognitive impairment*, Biochem. Soc. Trans. **38** (2010), no. 4, 1021–1025.
- [LTTMC08] L. Lagostena, C. Trocme-Thibierge, P. Morain, and E. Cherubini, *The partial $\alpha 7$ nicotine acetylcholine receptor agonist S 24795 enhances long-term potentiation at CA3-CA1 synapses in the adult mouse hippocampus*, Neuropharmacology **54** (2008), 676–685.
- [LWD11] Yan Lu, Guanghong Wei, and Philippe Derreumaux, *Effects of G33A and G33I mutations on the structures of monomer and dimer of the amyloid- β fragment 29-42 by replica exchange molecular dynamics simulations*, J. Phys. Chem. B **115** (2011), no. 5, 1282–1288.
- [LYLC11] Iljung Lee, Jehoon Yang, Jung Hee Lee, and Yearn Seong Choe, *Synthesis and evaluation of 1-(4-[18F]fluoroethyl)-7-(4'-methyl)curcumin with improved brain permeability for β -amyloid plaque imaging*, Bioorg. Med. Chem. Lett. **21** (2011), no. 19, 5765–5769.
- [LZL99] Hai Lin, Yinwen Judy Zhu, and Ratneshwar Lal, *Amyloid β protein (1-40) forms calcium-permeable, Zn^{2+} -sensitive channel in reconstituted lipid vesicles*, Biochemistry **38** (1999), no. 34, 11189–11196.
- [Mal11] Roberto Malinow, *New developments on the role of NMDA receptors in Alzheimer's disease*, Current Opinion in Neurobiology (2011), In press.
- [MAP04] J. T. Mague, W. L. Alworth, and F. L. Payton, *Curcumin and derivatives*, Acta Cryst. **60** (2004), 608–610.
- [MB04] E. Maltseva and G. Brezesinski, *Adsorption of amyloid beta (1-40) peptide to phosphatidylethanolamine monolayers*, ChemPhysChem **5** (2004), no. 8, 1185–1190.
- [MBB94] E. M. Mutisya, A. C. Bowling, and M. F. Beal, *Cortical cytochrome oxidase activity is reduced in Alzheimer's disease*, J. Neurochem. **63** (1994), no. 6, 2179–2184.
- [MBM⁺04] Neil F. McLennan, Paul M. Brennan, Alisdair McNeill, Ioan Davies, Andrew Fotheringham, Kathleen A. Rennison, Diane Ritchie, Francis Brannan, Mark W. Head, James W. Ironside, Alun Williams, and Jeanne E. Bell, *Prion protein accumulation and neuroprotection in hypoxic brain damage*, Am. J. Pathol. **165** (2004), no. 1, 227–235.
- [MDMD08] Adrien Melquiond, Xiao Dong, Normand Mousseau, and Philippe Derreumaux, *Role of the region 23-28 in $A\beta$ fibril formation: Insights from simulations of the monomers and dimers of Alzheimer's peptides $A\beta_{40}$ and $A\beta_{42}$* , Curr. Alzheimer Res. **5** (2008), no. 3, 244–250.
- [MEBG09] L. Minati, T. Edgington, M. G. Bruzzone, and G. Giaccone, *Current concepts in Alzheimer's disease: a multidisciplinary review*, Am. J. Aszheimers Dis. Other Demen. **24** (2009), no. 2, 95–121.
- [MECC11] Balu Muthaiyah, Musthafa M. Essa, Ved Chauhan, and Abha Chauhan, *Protective effects of walnut extract against amyloid beta peptide-induced cell death and oxidative stress in PC12 cells*, Biomedical and Life Science **36** (2011), no. 11, 2096–2103.

- [MFY⁺11] Yuichi Masuda, Masashi Fukuchi, Tatsuya Yatagawa, Masato Tada, Kazuyuki Takeda, Kazuhiro Irie, Ken ichi Akagi, Youko Monobe, Takayoshi Imazawa, and K. Takegoshi, *Solid-state NMR analysis of interaction sites of curcumin and 42-residue amyloid β -protein fibrils*, Bioorganic & Medicinal Chemistry **19** (2011), no. 20, 5967–5974.
- [MGK77] J. McCammon, J. B. Gelin, and M. Karplus, *Dynamics of folded proteins*, Nature **267** (1977), no. 5612, 585–590.
- [MGNO06] J. Myers, G. Grothaus, S. Narayanan, and A. Onufriev, *A simple clustering algorithm can be accurate enough for use in calculations of pKs in macromolecules*, Proteins **63** (2006), 928–938.
- [MGR⁺93] Patrick W. Mantyh, Joseph R. Ghilardi, Scott Rogers, Eric DeMaster, Clark J. Allen, Evelyn R. Stimson, and John E. Maggio, *Aluminum, iron, and zinc ions promote aggregation of physiological concentrations of β -amyloid peptide*, J. Neurochem. **61** (1993), 1171–1174.
- [MH90] Manfred Mutter and René Hersperger, *Peptides as conformational switch: Medium-induced conformational transitions of designed peptides*, Angewandte Chemie International Edition in English. **29** (1990), no. 2, 185–187.
- [MK92] S. Miyamoto and P. A. Kollman, *SETTLE: An analytical version of the SHAKE and RATTLE algorithms for rigid water models*, J. Comput. Chem. **13** (1992), 952–962.
- [MMBB⁺05] M. Molander-Melin, K. Blennow, N. Bogdanovic, B. Dellheden, J. E. Månsson, and P. Fredman, *Structural membrane alterations in Alzheimer brains found to be associated with regional disease development: increased density of gangliosides GM1 and GM2 and loss of cholesterol in detergent-resistant membrane domains*, J. Neurochem. **92** (2005), no. 1, 171–182.
- [MMIR06] Laura E. Maglio, Vilma R. Martins, Iv  n Izquierdo, and Oscar A. Ramirez, *Role of cellular prion protein on LTP expression in aged mice*, Brain Research **1097** (2006), no. 1, 11–18.
- [MN02] B. Ma and R. Nussinov, *Stabilities and conformations of alzheimer’s beta -amyloid peptide oligomers (abeta 16-22, abeta 16-35, and abeta 10-35): Sequence effects.*, Proc. Natl. Acad. Sci. U.S.A. **99** (2002), no. 22, 14126–14131.
- [MN06] Buyong Ma and Ruth Nussinov, *Simulations as analytical tools to understand protein aggregation and predict amyloid conformation*, Curr. Opin. Chem. Biol. **10** (2006), 445–452.
- [MNS05] Yuguang Mu, Phuong H. Nguyen, and Gerhard Stock, *Energy landscape of a small peptide revealed by dihedral angle principal component analysis*, Proteins: Struct. Funct. Bioinf. **58** (2005), 45–52.
- [MSHI11] S. Mitternacht, I. Staneva, T. Hard, and A. Irback, *Monte Carlo study of the formation and conformational properties of dimers of A β 42 variants*, J. Mol. Biol. **410** (2011), no. 2, 357–367.

- [MSTS09] N. Miyashita, J. E. Straub, D. Thirumalai, and Y. Sugita, *Transmembrane structures of amyloid precursor protein dimer predicted by replica-exchange molecular dynamics simulations*, J. Am. Chem. Soc. **131** (2009), 3438–3439.
- [Muc09] L. Mucke, *Neuroscience: Alzheimer’s disease*, Nature **461** (2009), 895–897.
- [MYR⁺09] QiuLan Ma, Fusheng Yang, Emily R. Rosario, Oliver J. Ubeda, Walter Beech, Dana J. Gant, Ping Ping Chen, Beverly Hudspeth, Cory Chen, Yongle Zhao, Harry V. Vinters, Sally A. Frautschy, and Greg M. Cole, *β -amyloid oligomers induce phosphorylation of tau and inactivation of insulin receptor substrate via c-jun N-terminal kinase signaling: suppression by omega-3 fatty acids and curcumin*, J. Neurosci. **29** (2009), no. 28, 9078–9089.
- [Nag93] J. F. Nagle, *Area/lipid of bilayers from NMR*, Biophys. J. **64** (1993), no. 5, 1476–1481.
- [NAPD75] W. T. Norton, T. Abe, S. E. Poduslo, and G. H. Devries, *LIPID-COMPOSITION OF ISOLATED BRAIN-CELLS AND AXONS*, J. Neurosci. Res. **1** (1975), no. 1, 57–75.
- [NBRP11] Ana Nikolic, Stephanie Baud, Sarah Rauscher, and Regis Pomes, *Molecular mechanism of β -sheet self-organization at water-hydrophobic interfaces*, Proteins: Structure, Function, and Bioinformatics **79** (2011), no. 1, 1–22.
- [NDAW02] R. G. Nagele, M. R. D’Andrea, W. J. Anderson, and H. Y. Wang, *Intracellular accumulation of beta-amyloid (1-42) in neurons is facilitated by the alpha 7 nicotinic acetylcholine receptor in Alzheimer’s disease*, Neuroscience **110** (2002), 199–211.
- [NLD11] Phuong H. Nguyen, Mai Suan Li, and Philippe Derreumaux, *Effects of all-atom force fields on amyloid oligomerization: replica exchange molecular dynamics simulations of the $A\beta_{16-22}$ dimer and trimer*, Phys. Chem. Chem. Phys. **13** (2011), 9778–9788.
- [NMSN⁺05] M. Naoi, W. Maruyama, M. Shamoto-Nagai, H. Yi, Y. Akao, and M. Tanaka, *Oxidative stress in mitochondria: decision to survive and death of neurons in neurodegenerative disorder*, Mol. Neurobiol. **31** (2005), 81–93.
- [Nos84] S. Nosé, *A molecular dynamics method for simulations in the canonical ensemble*, Mol. Phys. **55** (1984), 255–268.
- [NP93] Nelson Arispe, Eduardo Rojas and Harvey B. Pollard, *Alzheimer disease amyloid β protein forms calcium channels in bilayer membranes: Blockade by tromethamine and aluminum*, Proc. Natl. Acad. Sci. U.S.A. **90** (1993), 567–571.
- [NTN00] John F. Nagle and Stephanie Tristram-Nagle, *Lipid bilayer structure*, Curr. Opin. Struct. Biol. **10** (2000), no. 4, 474–480.
- [OR01] F. Ortica and M. A. J. Rodgers, *A laser flash photolysis study of curcumin in dioxane-water mixtures*, Photochem. Photobiol. **74** (2001), 745–751.
- [OS12] Olujide O Olubiyi and Birgit Strodel, *Structures of the amyloid β -peptides $A\beta_{1-40}$ and $A\beta_{1-42}$ as influenced by pH and a D-peptide*, J. Phys. Chem. B **116** (2012), 3280–3291.

- [OWIM07] T. Okada, M. Wakabayashi, K. Ikeda, and K. Matsuzaki, *Formation of toxic fibrils of Alzheimer's amyloid beta-protein-(1-40) by monosialoganglioside GM1, a neuronal membrane component*, J. Mol. Biol. **371** (2007), no. 2, 481–489.
- [PAG06] Yair Porat, Adel Abramowitz, and Ehud Gazit, *Inhibition of amyloid fibril formation by polyphenols: Structural similarity and aromatic interactions as a common inhibition mechanism*, Chemical Biology & Drug Design **67** (2006), 27–37.
- [PBM⁺06] Christina Priller, Thomas Bauer, Gerda Mitteregger, Bjarne Krebs, Hans A. Kretzschmar, and Jochen Herms, *Synapse formation and function is modulated by the amyloid precursor protein*, Neurobiology of Disease **26** (2006), no. 27, 7212–7221.
- [PCJ⁺07] Sagar A. Pandit, See-Wing Chiu, Eric Jakobsson, Ananth Grama, and H. L. Scott, *Cholesterol surrogates: A comparison of cholesterol and 16:0 ceramide in POPC bilayers*, Biophys. J. **92** (2007), 920–927.
- [PCJ⁺08] Sagar A. Pandit, See-Wing Chiu, Eric Jakobsson, Ananth Grama, and H. L. Scott, *Cholesterol packing around lipids with saturated and unsaturated chains: A simulation study*, Langmuir **24** (2008), 6858–6865.
- [PD10a] R. H. Parri and T. K. Dineley, *Nicotinic acetylcholine receptor interaction with beta-amyloid: molecular, cellular, and physiological consequences*, Curr. Alzheimer Res. **7** (2010), 27–39.
- [PD10b] Joshua A. Plumley and J. J. Dannenberg, *The importance of hydrogen bonding between the Glutamine side chains to the formation of Amyloid VQIVYK parallel β -sheets: An ONIOM DFT/AM1 study*, J. Am. Chem. Soc. **132** (2010), no. 6, 1758–1759.
- [PIB⁺02] A. T. Petkova, Y. Ishii, J. J. Balbach, O. N. Antzutkin, R. D. Leapman, F. Delaglio, and R. Tycko, *A structural model for Alzheimer's β -amyloid fibrils based on experimental constraints from solid state NMR*, Proc. Natl. Acad. Sci. U.S.A. **99** (2002), no. 26, 16742–16747.
- [PK02] S. Y. Park and D. S. Kim, *Discovery of natural products from curcuma longa that protect cells from beta-amyloid insult: a drug discovery effort against Alzheimer's disease*, J. Nat. Prod. **65** (2002), no. 9, 1227–1231.
- [PK11] Eugene Permyakov and Robert H. Kretsinger, *Calcium binding proteins (wiley series in protein and peptide science)*, Wiley; 1 edition, 2011.
- [PKC⁺08] So-Young Park, Hyo-Shin Kim, Eun-Kyung Cho, Bo-Youn Kwon, Sohee Phark, Kwang-Woo Hwang, and Donggeun Sula, *Curcumin protected PC12 cells against beta-amyloid-induced toxicity through the inhibition of oxidative damage and tau hyperphosphorylation*, Food and Chemical Toxicology **46** (2008), no. 8, 2881–2887.
- [PLAA⁺10] Angel Pérez-Lara, Alessio Ausili, Francisco J. Aranda, Ana de Godos, Alejandro Torrecillas, Senena Corbalán-García, and Juan C. Gómez-Fernández, *Curcumin disorders 1,2-Dipalmitoyl-sn-glycero-3-phosphocholine membranes and favors the formation of nonlamellar structures by 1,2-Dielaidoyl-sn-glycero-3-phosphoethanolamine*, J. Phys. Chem. B **114** (2010), no. 30, 9778–9786.

- [PMA⁺09] G. Pigino, G. Morfini, Y. Atagi, A. Deshpande, C. Yu, L. Jungbauer, M. LaDu, J. Busciglio, and S. Brady, *Disruption of fast axonal transport is a pathogenic mechanism for intraneuronal amyloid beta*, Proc. Natl. Acad. Sci. U.S.A. **106** (2009), no. 14, 5907–5912.
- [PPFKD94] W. D. Jr Parker, J. Parks, C. M. Filley, and B. K. Kleinschmidt-DeMasters, *Electron transport chain defects in Alzheimer’s disease brain*, Neurology **44** (1994), no. 6, 1090–1096.
- [Pru98] S. B. Prusiner, *Prions*, Proc. Natl. Acad. Sci. U.S.A. **95** (1998), no. 23, 13363–13383.
- [PSA07] Florastina Payton, Peter Sandusky, and William L. Alworth, *NMR study of the solution structure of curcumin*, J. Nat. Prod. **70** (2007), no. 2, 143–146.
- [PSF⁺09] F. Panza, V. Solfrizzi, V. Frisardi, B. P. Imbimbo, C. Capurso, A. D’Introno, A. M. Colacicco, D. Seripa, G. Vendemiale, A. Capurso, and A. Pilotto, *Beyond the neurotransmitter-focused approach in treating Alzheimer’s disease: drugs targeting beta-amyloid and tau protein*, Aging Clin. Exp. Res. **21** (2009), no. 6, 386–406.
- [PSY01] D. L. Pettit, Z. Shao, and J. L. Yakel, *β -amyloid 1-42 peptide directly modulates nicotinic receptors in the rat hippocampal slice*, J. Neurosci. **21** (2001), RC120–RC125.
- [PTK03] L. Puglielli, R. E. Tanzi, and D. M. Kovacs, *Alzheimer’s disease: the cholesterol connection*, Nat. Neurosci. **6** (2003), 345–351.
- [PTVF92] William H. Press, Saul A. Teukolsky, William T. Vetterling, and Brian P. Flannery, *Numerical recipes in C: The art of scientific computing*, 2 ed., Cambridge University Press, Cambridge, 1992.
- [PVC⁺04] Sagar A. Pandit, S. Vasudevan, S. W. Chiu, Eric Jakobsson, and H. L. Scott, *Sphingomyelin-cholesterol domains in phospholipid membranes: Atomistic simulation*, Biophys. J. **87** (2004), 1092–1100.
- [PvdS08] Alexandra Patriksson and David van der Spoel, *A temperature predictor for parallel tempering simulations*, Phys. Chem. Chem. Phys. **10** (2008), 2037–2077.
- [PWZ⁺11] Liik Prk, Gng Wng, Ping Zhou, Jon Zhou, Rose Pitstick, Mry Lou Previtic, Lind Younkind, Steven G. Younkind, Willim E. Vn Nostrndc, Sunghee Choe, Josef Anrther, George A. Crlson, and Costntino Idecol, *Scavenger receptor CD36 is essential for the cerebrovascular oxidative stress and neurovascular dysfunction induced by amyloid- β* , Proc. Natl. Acad. Sci. U.S.A. **108** (2011), no. 12, 5063–5068.
- [QAN02] X. R. Qin, H. Abe, and H. Nakanishi, *NMR and CD studies on the interaction of Alzheimer β -amyloid peptide (12-28) with β -cyclodextrin*, Biochem. Biophys. Res. Commun. **297** (2002), no. 4, 1011–1015.
- [Rah64] A. Rahman, *Correlations in the motion of atoms in liquid argon*, Phys. Rev. **136** (1964), A405–A411.

- [RFPdO08] R. Resende, E. Ferreira, C. Pereira, and C. Resende de Oliveira, *Neurotoxic effect of oligomeric and fibrillar species of amyloid β peptide 1-42: involvement of endoplasmic reticulum calcium release in oligomer-induced cell death*, *Neuroscience* **155** (2008), 725–737.
- [RK91] J. Reed and V. Kinzel, *A conformational switch is associated with receptor affinity in peptides derived from the CD4-binding domain of gp120 from HIV I*, *Biochemistry* **30** (1991), no. 18, 4521–4528.
- [RKR92] Karen Ritchie, Daniel Kildea, and Jean-Marie Robine, *The relationship between age and the prevalence of senile dementia: A meta-analysis of recent data*, *Int. J. Epidemiol.* **21** (1992), no. 4, 763–769.
- [RMR⁺11] Raik Röncke, Marina Mikhaylova, Sabine Röncke, Jessica Meinhardt, Ulrich H. Schröder, Marcus Fändrich, Georg Reiser, Michael R. Kreutz, and Klaus G. Reymann, *Early neuronal dysfunction by amyloid β oligomers depends on activation of NR2B-containing NMDA receptors*, *Neurobiology of Aging* **32** (2011), no. 12, 2219–2228.
- [RPB⁺04] R. Rissman, W. W. Poon, M. Blurton, S. Oddo, R. Torp, M. Vitek, F. LaFerla, and T. T. Rohn, *Caspase-cleavage of tau is an early event in Alzheimer disease tangle pathology*, no. 1, 121–130.
- [RR07] Duilio F. Raffa and Arvi Rauk, *Molecular dynamics study of the beta amyloid peptide of Alzheimer’s disease and its divalent copper complexes*, *J. Phys. Chem. B* **111** (2007), no. 14, 3789–3799.
- [RRG⁺97] A. Rammes, J. Roth, M. Goebeler, M. Klempt, M. Hartmann, and C. Sorg, *Myeloid-related protein (MRP) 8 and MRP14, calcium-binding proteins of the S100 family, are secreted by activated monocytes via a novel, tubulin-dependent pathway*, *J. Biol. Chem.* **272** (1997), 9496–9502.
- [RRZ⁺01] Catherine A. Rottkamp, Arun K. Raina, Xiongwei Zhu, Elizabeth Gaier, Ashley I. Bush, Craig S. Atwood, Mordechai Chevion, George Perry, and Mark A. Smith, *Redox-active iron mediates amyloid- β toxicity*, *Free Radical Biology and Medicine* **30** (2001), no. 4, 447–450.
- [San99] Michel F. Sanner, *Python: A programming language for software integration and development*, *J. Mol. Graphics Mod.* **17** (1999), 57–61.
- [SCB07] Danielle G. Smith, Roberto Cappai, and Kevin J. Barnham, *The redox chemistry of the Alzheimer’s disease amyloid β peptide*, *Biochimica et Biophysica Acta (BBA) - Protein & Proteomics* **1768** (2007), no. 8, 1976–1990.
- [SDAG10] Yinon Shafir, Stewart Durell, Nelson Arispe, and H. Robert Guy, *Models of membrane-bound Alzheimer’s abeta peptide assemblies*, *Proteins: Structure, Function, and Bioinformatics.* **78** (2010), no. 16, 3473–3487.
- [SF09] R. L. Silverstein and M. Febbraio, *CD36, a scavenger receptor involved in immunity, metabolism, angiogenesis, and behavior*, *Sci. Signal* **2** (2009), 1–8.
- [SFC⁺09] S. Baiguera S, L. Fioravanzo, C. Grandi C, R. Di Liddo, P. P. Parnigotto, and M. Folin, *Involvement of the receptor for advanced glycation-end products (RAGE) in beta-amyloid-induced toxic effects in rat cerebrovascular endothelial cells cultured in vitro*, *Int. J. Mol. Med.* **24** (2009), no. 1, 9–15.

- [SHH⁺01] S. Scheuermann, B. Hambsch, L. Hesse, J. Stumm, C. Schmidt, D. Beher, T. A. Bayer, K. Beyreuther, and G. Multhaup, *Homodimerization of amyloid precursor protein and its implication in the amyloidogenic pathway of Alzheimer's disease*, J. Biol. Chem. **276** (2001), 33923–33929.
- [SKS⁺98] Mikael Simons, Patrick Keller, Bart De Strooper, Konrad Beyreuther, Carlos G. Dotti, and Kai Simons, *Cholesterol depletion inhibits the generation of β -amyloid in hippocampal neurons*, Proc. Natl. Acad. Sci. U.S.A. **95** (1998), no. 11, 6460–6464.
- [SKW⁺10] S. J. Soscia, J. E. Kirby, K. J. Washicosky, S. M. Tucker, M. Ingelsson, B. Hyman, M. A. Burton, L. E. Goldstein, S. Duong, R. E. Tanzi, and R. D. Moir, *The Alzheimer's disease-associated Amyloid β -protein is an antimicrobial peptide*, PLoS One **5** (2010), no. 3, e9505.
- [SLC⁺05] Woei-Cherng Shyu, Shinn-Zong Lin, Ming-Fu Chiang, Dah-Ching Ding, Kuo-Wei Li, Shih-Fen Chen, Hui-I Yang, and Hung Li, *Overexpression of prP^C by adenovirus-mediated gene targeting reduces ischemic injury in a stroke rat model*, J. Neurosci. **25** (2005), no. 39, 8967–8977.
- [SLH⁺05] D. Van Der Spoel, E. Lindahl, B. Hess, G. Groenhof, A. E. Mark, and H. J. C. Berendsen, *GROMACS: Fast, flexible, and free*, J. Comput. Chem. **26** (2005), 1701–1718.
- [SLM⁺08] G. M. Shankar, S. M. Li, T. H. Mehta, A. Garcia-Munoz, N. E. Shepardson, I. Smith, F. M. Brett, M. A. Farrell, M. J. Rowan, C. A. Lemere, C. M. Regan, D. M. Walsh, B. L. Sabatini, and D. J. Selkoe, *Amyloid-beta protein dimers isolated directly from Alzheimer's brains impair synaptic plasticity and memory*, Nature Medicine **14** (2008), no. 8, 837–842.
- [SLTE10] James C. Stroud, Cong Liu, Poh K. Teng, and David Eisenberg, *Toxic fibrillar oligomers of amyloid- β have cross- β structure*, Proc. Natl. Acad. Sci. U.S.A. **109** (2010), no. 20, 7717–7722.
- [SLWW10] Birgit Strodel, Jason W. L. Lee, Christopher S. Whittleston, and David J. Wales, *Transmembrane structures for Alzheimer's A β_{1-42} oligomers*, J. Am. Chem. Soc. **132** (2010), no. 38, 13300–13312.
- [SMK⁺07] David H. Small, Danuta Maksel, Megan L. Kerr, Judy Ng, Xu Hou, Cindy Chu, Hossein Mehrani, Sharon Unabia, Michael F. Azari, Richard Loiacono, MarieIsabel Aguilar, and Mary Chebib, *The beta-amyloid protein of Alzheimer's disease binds to membrane lipids but does not bind to the alpha7 nicotinic acetylcholine receptor*, J. Neurochem. **101** (2007), no. 6, 1527–1538.
- [SNA⁺05] Eric M. Snyder, Yi Nong, Claudia G. Almeida, Surojit Paul, Timothy Moran, Eun Young Choi, Angus C. Nairn, Michael W. Salter, Paul J. Lombroso, and Gunnar K. Gouras, *Regulation of NMDA receptor trafficking by amyloid- β* , Nature Neuroscience **8** (2005), 1051–1058.
- [SOK⁺09] Antero Salminen, Johanna Ojala, Anu Kauppinen, Kai Kaarniranta, and Tiina Suuronen, *Inflammation in Alzheimer's disease: Amyloid- β oligomers trigger innate immunity defence via pattern recognition receptors*, Progress in Neurobiology **87** (2009), no. 3, 181–194.

- [Sot03] Claudio Soto, *UNFOLDING THE ROLE OF PROTEIN MISFOLDING IN NEURODEGENERATIVE DISEASES*, Nature Reviews Neuroscience **4** (2003), 49–60.
- [SPB06] R. Sultana, M. Perluigi, and D. A. Butterfield, *Redox proteomics identification of oxidatively modified proteins in Alzheimer’s disease brain and in vivo and in vitro models of AD centered around abeta(1-42)*, J. Chromatogr. B Anal. Technol. Biomed. Life Sci. **833** (2006), 3–11.
- [SPC⁺10] Roni ScherzerAttali, Riccardo Pellarin, Marino Convertino, Anat FrydmanMarom, Nirit EgozMatia, Sivan Peled, Michal LevySakin, Deborah E. Shalev, Amedeo Caffisch, Ehud Gazit, and Daniel Segal, *Complete phenotypic recovery of an Alzheimer’s disease model by a quinone-tryptophan hybrid aggregation inhibitor*, PLoS One **5** (2010), no. 6, e11101.
- [SPP⁺10] Fernando J. Sepulveda, Jorge Parodi, Robert W. Peoples, Carlos Opazo, and Luis G. Aguayo, *Synaptotoxicity of Alzheimer beta amyloid can be explained by its membrane perforating property*, PLoS One **5** (2010), no. 7, e11820.
- [SR74] Frank H. Stillinger and Aneesur Rahman, *Improved simulation of liquid water by molecular dynamics*, J. Chem. Phys. **60** (1974), 1545.
- [SR96] N. S. Scrutton and A. R. Raine, *Cation- π bonding and amino-aromatic interactions in the biomolecular recognition of substituted ammonium ligands*, Biochem. J. **319** (1996), 1–8.
- [SRC11] Andrew G. Smith, Emma Lloyd Raven, and Tatyana Chernova, *The regulatory role of heme in neurons*, Metallomics **3** (2011), 955–962.
- [SSLS05] Antonella Santucci, Vladimir Sytnyk, Iryna Leshchyns’ka, and Melitta Schachner, *Prion protein recruits its neuronal receptor NCAM to lipid rafts to activate p59^{fyn} and to enhance neurite outgrowth*, J. Cell Biol. **169** (2005), 341–354.
- [SSN⁺09] A. M. Schmidt, B. Sahagan, R. B. Nelson, J. Selmer, R. Rothlein, and J. M. Bell, *The role of RAGE in amyloid-beta peptide-mediated pathology in Alzheimer’s disease*, Curr. Opin. Investig Drugs **10** (2009), no. 7, 672–680.
- [SUDF05] J. M. Stevens, T. Uchida, O. Daltrop, and S. J. Ferguson, *Covalent cofactor attachment to proteins: cytochrome c biogenesis*, Biochem. Soc. Trans. **33** (2005), 792–795.
- [SvA04] A. W. Schuttelkopf and D. M. F. van Aalten, *PRODRG - a tool for high-throughput crystallography of protein-ligand complexes*, Acta. Crystallogr. D **60** (2004), 1355–1363.
- [SYM⁺07] Nikolaos G. Sgourakis, Yilin Yan, Scott A. McCallum, Chunyu Wang, and Angel E. Garcia, *The Alzheimer’s peptides a β 40 and 42 adopt distinct conformations in water: a combined MD/NMR study*, J. Mol. Biol. **368** (2007), no. 5, 1448–1457.
- [SYSG08] I. A. Solovyov, A. V. Yakubovich, A. V. Solovyov, and W. Greiner, *α -helix \leftrightarrow random coil phase transition: analysis of ab initio theory predictions*, Eur. Phys. J. D **46** (2008), 227.

- [TA05] Ehab E. Tuppoa and Hugo R. Arias, *The role of inflammation in Alzheimer’s disease*, The International Journal of Biochemistry and Cell Biology **37** (2005), 289–305.
- [TEV⁺06] Simona Tomaselli, Veronica Esposito, Paolo Vangone, Nico A. J. van Nuland, Alexandre M. J. J. Bonvin, Remo Guerrini, Teodorico Tancredi, Piero A. Temussi, and Delia Picone, *The α -to- β conformational transition of Alzheimer’s A β -(1-42) peptide in aqueous media is reversible: A step by step conformational analysis suggests the location of β conformation seeding*, ChemBioChem **7** (2006), 257–267.
- [TFZ⁺09] K. Takuma, F. Fang, W. Zhang, S. Yan, E. Fukuzaki, H. Du, A. Sosunov, G. McKhann, Y. Funatsu, N. Nakamichi, T. Nagai, H. Mizoguchi, D. Ibi, O. Hori, S. Ogawa, D. M. Stern, K. Yamada, and S. S. Yan, *RAGE-mediated signaling contributes to intraneuronal transport of amyloid- β and neuronal dysfunction*, Proc. Natl. Acad. Sci. U.S.A. **106** (2009), no. 47, 20021–20026.
- [TLT⁺10] H. H. Tsai, J. B. Lee, S. S. Tseng, X. A. Pan, and Y. C. Shih, *Folding and membrane insertion of amyloid-beta (25-35) peptide and its mutants: implications for aggregation and neurotoxicity*, Protein **78** (2010), no. 8, 1909–1925.
- [TM08] T. Takahashi and H. Mihara, *Peptide and protein mimetics inhibiting amyloid beta-peptide aggregation.*, Acc. Chem. Res. **41** (2008), no. 10, 1309–1318.
- [TMSA⁺11] Laura Texido, Mireia Martin-Satue, Elena Alberdi, Carles Solsona, and Carlos Matute, *Amyloid β peptide oligomers directly activate NMDA receptors*, Cell Calcium **49** (2011), no. 3, 184–190.
- [TS10] Zaldy S. Tan and Sudha Seshadri, *Inflammation in the Alzheimer’s disease cascade: culprit or innocent bystander?*, Alzheimer’s research & therapy **2** (2010), no. 2, 6.
- [TTG10] Debjani Tripathy, Lakshmi Thirumangalakudi, and Paula Grammas, *RANTES upregulation in the Alzheimer’s disease brain: A possible neuroprotective role*, Neurobiology of Aging **31** (2010), no. 1, 8–16.
- [TV77] G. M. Torrie and J. P. Valleau, *Nonphysical sampling distributions in Monte Carlo free-energy estimation: Umbrella sampling*, J. Comput. Phys. **23** (1977), 187–199.
- [UBC⁺10] B. Urbanc, M. Betnel, L. Cruz, G. Bitan, and D. B. Teplow, *Elucidation of amyloid β -protein oligomerization mechanisms: Discrete molecular dynamics study*, J. Am. Chem. Soc. **132** (2010), no. 12, 4266–4280.
- [UCD⁺04] B. Urbanc, L. Cruz, F. Ding, D. Sammond, S. Khare, S. V. Buldyrev, H. E. Stanley, and N. V. Dokholyan, *Molecular dynamics simulation of amyloid β dimer formation*, Biophys. J. **87** (2004), no. 4, 2310–2321.
- [VDR⁺08] C. Venugopal, C. M. Demos, K. S. Rao, M. A. Pappolla, and K. Sambamurti, *Beta-secretase: structure, function, and evolution*, CNS Neurol Disord Drug Targets **7** (2008), no. 3, 278–294.
- [vdSLH⁺05] D. van der Spoel, E. Lindahl, B. Hess, A. R. van Buuren, E. Apol, P. J. Meulenhoff, D. P. Tieleman, A. L. T. M. Sijbers, K. A. Feenstra, R. van Drunen, and H. J. C. Berendsen, *Gromacs user manual version 4.0*, www.gromacs.org, 2005.

- [VGMR12] Thomas Vogl, Anna L. Gharibyan, and Ludmilla A. Morozova-Roche, *Pro-inflammatory S100A8 and S100A9 proteins: Self-assembly into multifunctional native and amyloid complexes*, Int. J. Mol. Sci. **13** (2012), 2893–2917.
- [VH03] N. Vassallo and J. Herms., *Cellular prion protein function in copper homeostasis and redox signalling at the synapse*, J. Neurochem. **86** (2003), 538–544.
- [VMD⁺10] K. Varghese, P. Molnar, M. Das, N. Bhargava, S. Lambert, M. S. Kindy, and J. J. Hickman, *A new target for amyloid beta toxicity validated by standard and high-throughput electrophysiology*, PLoS One **5** (2010), no. 1, e8643.
- [VP04] Y. Verdier and B. Penke, *Binding sites of amyloid beta-peptide in cell plasma membrane and implications for Alzheimer’s disease*, Curr. Protein Pept. Sci. **5** (2004), no. 13, 19–31.
- [VRG⁺11] Deborah K. Verges, Jessica L. Restivo, Whitney D. Goebel, David M. Holtzman, and John R. Cirrito, *Opposing synaptic regulation of amyloid- β metabolism by NMDA receptors in vivo*, J. Neurosci. **31** (2011), no. 31, 11328–11337.
- [VYMB00] S. Varadarajan, S. Yatin, M. Aksenova M, and D. A. Butterfield, *Review: Alzheimer’s amyloid β -peptide-associated free radical oxidative stress and neurotoxicity*, Journal of Structural Biology **130** (2000), no. 2-3, 184–208.
- [WBS⁺10] Hoau-Yan Wang, Kalindi Bakshi, Changpeng Shen, Maya Frankfurt, Caryn Trocmé-Thibierge, and Philippe Morain, *S24795 limits β -amyloid- $\alpha 7$ nicotinic receptor interaction and reduces Alzheimer’s disease-like pathologies*, Biological Psychiatry **67** (2010), no. 6, 522–530.
- [WC06] Tony Wyss-Coray, *Inflammation in Alzheimer disease: driving force, bystander or beneficial response?*, Nature Medicine **12** (2006), 1005–1015.
- [WKF⁺02] D. M. Walsh, I. Klyubin, J. V. Fadeeva, W. K. Cullen, R. Anwyl, M. S. Wolfe, M. J. Rowan, and D. J. Selkoe, *Naturally secreted oligomers of amyloid β protein potently inhibit hippocampal long-term potentiation in vivo*, Nature **416** (2002), 535–539.
- [WKN⁺07] J. Wegiel, I. Kuchna, K. Nowicki, J. Frackowiak, B. Mazur-Kolecka, H. Imaki, J. Wegiel, P. D. Mehta, W. P. Silverman, B. Reisberg, M. Deleon, T. Wisniewski, T. Pirttilla, H. Frey, T. Lehtimäki, T. Kivimäki, F. E. Visser, W. Kamphorst, A. Potempska, D. Bolton, J. R. Currie, and D. L. Miller, *Intraneuronal A β immunoreactivity is not a predictor of brain amyloidosis- β or neurofibrillary degeneration*, Acta Neuropathol. **113** (2007), no. 4, 389–420.
- [WLD⁺00] H. Y. Wang, D. H. S. Lee, M. R. D’Andrea, P. A. Peterson, R. P. Shank, and A. B. Reitz, *β -Amyloid(1-42) binds to $\alpha 7$ nicotinic acetylcholine receptor with high affinity: Implications for Alzheimer’s disease pathology*, J. Biol. Chem. **275** (2000), 5626–5632.
- [WLG⁺11] Leilei Wang, ChuanZhou Li, Hao Guo, Timothy S. Kern, Kun Huang, and Ling Zheng, *Curcumin inhibits neuronal and vascular degeneration in retina after ischemia and reperfusion injury*, PLoS One **6** (2011), no. 8, e23194.

- [WM09] Masaki Wakabayashi and Katsumi Matsuzaki, *Ganglioside-induced amyloid formation by human islet amyloid polypeptide in lipid rafts*, FEBS Letters **583** (2009), no. 17, 2854–2858.
- [WOKM05] M. Wakabayashi, T. Okada, Y. Kozutsumi, and K. Matsuzaki, *GM1 ganglioside-mediated accumulation of amyloid beta-protein on cell membranes*, Biochem. Biophys. Res. Commun. **328** (2005), no. 4, 1019–1023.
- [Wol04] B. Wolozin, *Cholesterol and the biology of Alzheimer’s disease*, Neuron **41** (2004), 7–10.
- [WS11] T. L. Williams and L. C. Serpell, *Membrane and surface interactions of Alzheimer’s A β peptide-insights into the mechanism of cytotoxicity*, FEBS J. **278** (2011), 3905–3917.
- [WSW⁺09] P. T. Wong, J. A. Schauerte, K. C. Wisser, H. Ding, E. L. Lee, D. G. Steel, and A. Gafni, *Amyloid-beta membrane binding and permeabilization are distinct processes influenced separately by membrane charge and fluidity*, J. Mol. Biol. **386** (2009), 81–96.
- [WWR⁺04] Q. Wang, D. M. Walsh, M. J. Rowan, D. J. Selkoe, and R. Anwyl, *Block of long-term potentiation by naturally secreted and synthetic amyloid beta-peptide in hippocampal slices is mediated via activation of the kinases c-Jun N-terminal kinase, cyclin-dependent kinase 5, and p38 mitogen-activated protein kinase as well as metabotropic glutamate receptor type 5*, J. Neurosci. **24** (2004), no. 13, 3370–8.
- [WZY⁺10] Q. Wang, J. Zhao, X. Yu, C. Zhao, L. Li, and J. Zheng, *Alzheimer A β (1-42) monomer adsorbed on the self-assembled monolayers*, Langmuir **26** (2010), no. 15, 12722–12732.
- [WZZ⁺10] Qiuming Wang, Chao Zhao, Jun Zhao, Jingdai Wang, Jui-Chen Yang, Xiang Yu, and Jie Zheng, *Comparative molecular dynamics study of A β adsorption on the self-assembled monolayers*, Langmuir **26** (2010), no. 5, 3308–3316.
- [XSL⁺05] Yechun Xu, Jianhua Shen, Xiaomin Luo, Weiliang Zhu, Kaixian Chen, Jianpeng Ma, and Hualiang Jiang, *Conformational transition of amyloid β -peptide*, Proc. Natl. Acad. Sci. U.S.A. **102** (2005), no. 15, 5403–5407.
- [XZD⁺11] Weixin Xu, Ce Zhang, Philippe Derreumaux, Astrid Graslund, Ludmilla Morozova-Roche, and Yuguang Mu, *Intrinsic determinants of A β _{12–24} pH-dependent self-assembly revealed by combined computational and experimental studies*, PLoS One **6** (2011), no. 9, e24329.
- [XZZZ09] Zhen Xia, Zhihong Zhu, Jun Zhu, and Ruhong Zhou, *Recognition mechanism of siRNA by viral p19 suppressor of RNA silencing: A molecular dynamics study*, Biophys. J. **96** (2009), no. 5, 1761–1769.
- [YAF10] Nouara Yah, Anais Aulas, and Jacques Fantini, *How cholesterol constrains glycolipid conformation for optimal recognition of Alzheimer’s β amyloid peptide (A β 1-40)*, PLoS One **5** (2010), no. 2, e9079.
- [YAK⁺07] Tom Young, Robert Abel, Byungchan Kim, Bruce J. Berne, and Richard A. Friesner, *Motifs for molecular recognition exploiting hydrophobic enclosure in protein-ligand binding*, Proc. Natl. Acad. Sci. U.S.A. **104** (2007), no. 3, 808–813.

- [YCF⁺96] S. D. Yan, X. Chen, J. Fu, M. Chen, H. Zhu, A. Roher, T. Slattery, L. Zhao, M. Nagashima, J. Morser, A. Migheli, P. Nawroth, D. Stern, and A. M. Schmidt, *RAGE and amyloid-beta peptide neurotoxicity in Alzheimer's disease*, *Nature* **382** (1996), no. 6593, 685–691.
- [YD06] F. Yasar and K. Demir, *The study of helix-coil transition of polyaniline with single histogram method*, *Computer Physics Communications* **175** (2006), 604–611.
- [YLB⁺05] Fusheng Yang, Giselle P. Lim, Aynun N. Begum, Oliver J. Ubeda, Mychica R. Simmons, Surendra S. Ambegaokar, Pingping P. Chen, Rakez Kaye, Charles G. Glabe, Sally A. Frautschy, and Gregory M. Cole, *Curcumin inhibits formation of amyloid β oligomers and fibrils, binds plaques, and reduces amyloid in vivo*, *J. Biol. Chem.* **280** (2005), no. 7, 5892–5901.
- [YON⁺11] Hitomi Yoshida, Naoko Okumura, Yuri Nishimura, Yasuko Kitagishi, and Satoru Matsuda, *Turmeric and curcumin suppress presenilin 1 protein expression in Jurkat cells*, *Experimental and Therapeutic Medicine* **2** (2011), no. 4, 629–632.
- [YSA⁺10] Daijiro Yanagisawa, Nobuaki Shirai, Tomone Amatsubo, Hiroyasu Taguchi, Koichi Hirao, Makoto Urushitani, Shigehiro Morikawa, Toshiro Inubushi, Masanari Kato, Fuminori Kato, Kyuya Morino, Hirohiko Kimura, Ichiro Nakano, Chikako Yoshida, Takashi Okada, Mitsuo Sano, Yoshiko Wada, Ken nosuke Wada, Akitsugu Yamamoto, and Ikuo Tooyama, *Relationship between the tautomeric structures of curcumin derivatives and their $A\beta$ -binding activities in the context of therapies for Alzheimer's disease*, *Biomaterials* **31** (2010), no. 14, 4179–4185.
- [YYY⁺12] Can Yuan, Lian Yi, Zhen Yang, Qingqing Deng, Yi Huang, Hailing Li, and Zhonghong Gao, *Amyloid beta-heme peroxidase promoted protein nitrotyrosination: relevance to widespread protein nitration in Alzheimer's disease*, *J. Biol. Inorg. Chem* **17** (2012), 197–207.
- [YZ11] Xiang Yu and Jie Zheng, *Cholesterol promotes the interaction of Alzheimer β -amyloid monomer with lipid bilayer*, *J. Mol. Biol.* (2011).
- [ZB59] H. Zimm and J. K. Bragg, *Theory of the phase transition between helix and random coil in polypeptide chains*, *J. Chem. Phys.* **31** (1959), 526–535.
- [ZCB⁺11] Li Na Zhao, See-Wing Chiu, Jerome Benoit, Lock Yue Chew, and Yuguang Mu, *Amyloid β peptide aggregation in a mixed membrane bilayer: A molecule dynamic study*, *J. Phys. Chem. B* **115** (2011), 12247–12256.
- [ZCB⁺12] Li Na Zhao, See-Wing Chiu, Jerome Benoit, Lock Yue Chew, and Yuguang Mu, *The effect of curcumin on the stability of $A\beta$ dimers*, *J. Phys. Chem. B* **116** (2012), no. 25, 7428–7435.
- [ZFF⁺08] Wei-Qin Zhao, Fernanda G. De Felice, Sara Fernandez, Hui Chen, Mary P. Lambert, Michael J. Quon, Grant A. Krafft, and William L. Klein, *Amyloid beta oligomers induce impairment of neuronal insulin receptors*, *FASEB J.* **22** (2008), no. 1, 246–260.
- [ZGFZ11] Guanghong Zuo, Wei Gu, Haiping Fang, and Ruhong Zhou, *Carbon nanotube wins the competitive binding over proline-rich motif ligand on SH3 domain*, *J. Phys. Chem. C* **115** (2011), 12322–12328.

- [ZHMB04] Ruhong Zhou, Xuhui Huang, Claudio J. Margulis, and Bruce J. Berne, *Hydrophobic collapse in multidomain protein folding*, Science **305** (2004), no. 10, 1605–1609.
- [ZKD⁺09] Lin Zheng, Katarina Kågedal, Nodi Dehvari, Eiríkur Benedíktz, Richard Cowburn, Jan Marcusson, and Alexei Terman, *Oxidative stress induces macroautophagy of amyloid β -protein and ensuing apoptosis*, Free Radical Biology and Medicine **46** (2009), no. 3, 422–429.
- [ZLGvdM12] Ce Zhang, Yonggang Liu, Jonathan Gilthorpe, and Johan R C van der Maarel, *MRP14 (S100A9) protein interacts with Alzheimer beta-amyloid peptide and induces its fibrillization*, PLoS One **7** (2012), no. 3, e32953.
- [ZLMC12] Li Na Zhao, HonWai Long, Yuguang Mu, and Lock Yue Chew, *The toxicity of amyloid β oligomers*, Int. J. Mol. Sci. **13** (2012), no. 6, 7303–7327.
- [ZR97] S. Zhang and A. Rich, *Direct conversion of an oligopeptide from a β -sheet to an α -helix: a model for amyloid formation*, Proc. Natl. Acad. Sci. U.S.A. **94** (1997), no. 1, 23–28.
- [ZWLZ11] J. Zhao, Q. M. Wang, G. Z. Liang, and J. Zheng, *Molecular dynamics simulations of low-ordered Alzheimer beta-amyloid oligomers from dimer to hexamer on self-assembled monolayers*, Langmuir **27** (2011), no. 24, 14876–14887.