

**Publications**  
**Dr Anne Imberty**  
CERMAV-CNRS

**Databases for glycobiology**

[ [UniLectin](#) ]: our Internet database of structures and sequences of lectins

**2023**

382 - B. Schnider, F. Lorenzo Escudero, A. Imberty & F. Lisacek (in press) BiotechLec: an interactive guide of commercial lectins for glycobiology and biomedical research applications. *Glycobiology*, (doi: 10.1093/glycob/cwad034) [[Publisher](#)] [[hal-04100786](#)]

381 - L. Li, Z. Li, Z. Wang, S. Chen, R. Liu, X. Xu, Z. Zhang, L. Ye, Y. Ding, Q. Luo, S. Cao, L. Zhang, A. Imberty & G. Chen (in press) Spatiotemporal landscape for the sophisticated transformation of protein assemblies defined by multiple supramolecular interactions. *ACS Nano*, (doi: 10.1021/acsnano.3c04029) [[Publisher](#)] [[hal-04175242](#)]

380 - J. Tomisch, V. Busse, F. Rosato, O. N. Makshakova, P. Salavei, A.-S. Kittel, E. Gillon, L. Lataster, A. Imberty, A. V. Meliández, W. Rieger (2023) A Shiga toxin B-subunit-based lectin body boosts T cell cytotoxicity towards Gb3-positive cancer cells. *Cells* **12**, 189 (doi: 10.3390/cells12141896) [[OpenAccess](#)] [[hal-04170657](#)]

379 - K. F. Warfel, E. Laigre, S. E. Sobol, E. Gillon, A. Varrot, O. Renaudet, J. Dejeu, M. C. Jewett, A. Imberty (2023) Cell-free expression and characterization of multivalent rhamnose-binding lectins using biolayer interferometry. *Glycobiology* **33**, 358-363 (doi: 10.1093/glycob/cwad018) [[BioRxiv](#)] [[hal-04018544](#)]

378 - T. Pesenti, E. Gillon, S. Messaoudi, Y. Guillaneuf, A. Imberty & J. Nicolas (2023) Increasing the hydrophilicity of cyclic ketene acetals improves the hydrolytic degradation of vinyl copolymers and the interaction of glycopolymer nanoparticles with lectins. *Biomacromolecules* **24**, 9911 (doi: 10.1021/acs.biomac.2c01419) [[Publisher](#)]

377 - S. Notova & A. Imberty\* (2023) Tuning specificity and topology of lectins through synthetic biology. *Curr. Opin. Chem. Biol.* **102**, 102275 (doi: 10.1016/j.cbpa.2023.102275) [[OpenAccess](#)] [[hal-03988195](#)]

376 - E. Zahorska, F. Rosato, K. Stober, S. Kuhaudomlarp, J. Meiers, D. Hauck D. Reith, E. Gillon, K. Rox, A. Imberty, W. Rieger & A. Titz (2023) Neutralizing the impact of the virulence factor LecA from *Pseudomonas aeruginosa* on human cells with new glycomimetic inhibitors. *Angew. Chem.* **62**, e202215535 (doi: 10.1002/anie.202215535) [[OpenAccess](#)] [[hal-03908729](#)]

375 - A. Bruneau, A. Furiga, E. Brachet, C. Roques, A. Varrot, A. Imberty\* & S. Messaoudi\* (2023) Discovery of potent 1,1-diarylthiogalactoside glycomimetic inhibitors of *Pseudomonas aeruginosa* LecA with antibiofilm properties. *Eur. J. Med. Chem.* **247**, 115025 (doi: 10.1016/j.ejmech.2022.115025) [[Publisher](#)] [[hal-03928944](#)]

374 - Z. Liu, F. Demontrond, A. Imberty, A. C.-H. Sue, S. Vidal & H. Zhao (2023) Rim-differentiation vs. mixture of constitutional isomers: A binding study between pillar[5]arene-based glycoclusters and lectins from pathogenic bacteria. *Chinese Chem. Lett.* **34**, 107872 (doi: 10.1016/j.ccllet.2022.107872) [[Publisher](#)] [[hal-03989896](#)]

**2022**

- 373 - S. Kuhadomlarp & A. Imberty (2022) Involvement of sialoglycans in SARS-COV-2 infection: opportunities and challenges for glyco-based inhibitors. *IUBMB Life* **74**, 1253-1263 (doi: 10.1002/iub.2692) [[PubMed](#)] [[hal-03850143](#)]
- 372 - S. Notova, L. Siukstaite, F. Rosato, F. Vena, A. Audfray, N. Bovin, L. Landemarre, W. Riecher & A. Imberty\* (2022) Extending Janus lectins architecture: characterization and application to protocells. *Comput. Struct. Biotechnol. J.* **20**, 6108-6119 (doi: 10.1016/j.csbj.2022.11.005) [[OpenAccess](#)] [[BioRxiv](#)] [[hal-03850106](#)]
- 371 - P. Mala, E. Siebs, J. Meiers, K. Rox, A. Varrot, A. Imberty & A. Titz (2022) Discovery of N-b-L-fucosyl amides as high-affinity ligands for the *Pseudomonas aeruginosa* lectin LecB. *J. Med. Chem.* **65**, 14180-14200 (doi: 10.1021/acs.jmedchem.2c01373) [[OpenAccess](#)] [[hal-03834673](#)]
- 370 - S. Notova, N. Cannac, L. Rabagliati, M. Touzard, J. Mante, Y. Navon, L. Coche-Guyot, O. Lerouxel, L. Heux\* & A. Imberty\* (2022) Building artificial plant cell wall on lipid bilayer by assembling polysaccharides and engineered proteins. *ACS Synth. Biol.* **11**, 3516-3528 (doi: 10.1021/acssynbio.2c00404) [[PubMed](#)] [[BioRxiv](#)] [[hal-03798769](#)]
- 369 - R. Bermeo, K. Lal, D. Ruggeri, D. Lanaro, S. Mazzotta, F. Vasile, A. Imberty, L. Belvisi, A. Varrot & A. Bernardi (2022) Targeting a multidrug-resistant pathogen: First generation antagonists of *Burkholderia cenocepacia*'s BC2L-C lectin. *ACS Chem. Biol.* **17**, 2899-2910 (doi: 10.1021/acscchembio.2c00532) [[OpenAccess](#)] [[hal-03795919](#)]
- 368 - L. Picault, E. Laigre, E. Gillon, C. Tiertant, O. Renaudet, A. Imberty, D. Goyard & J. Dejeu (2022) Characterization of the interaction of multivalent glycosylated ligands with bacterial lectins by BioLayer Interferometry. *Glycobiology* **32**, 886-896 (doi: 10.1093/glycob/cwac047) [[PubMed](#)] [[hal-03769073](#)]
- 367 - T. Pesenti, D. Domingo-Lopez, E. Gillon, N. Ibrahim, S. Messaoudi, A. Imberty & J. Nicolas (2022) Degradable glycopolyester-like nanoparticles by radical ring-opening polymerization. *Biomacromolecules* **23**, 4015-4028 (doi: 10.26434/chemrxiv-2022-fdkv1) [[PubMed](#)] [[ChemRxiv](#)] [[hal-03805407](#)]
- 366 - S. Notova, F. Bonnardel, F. Rosato, L. Siukstaite, J. Schwaiger, N. Bovin, A. Varrot, W. Riecher\*, F. Lisacek\* & A. Imberty\* (2022) The choanoflagellate pore-forming lectin SaroL-1 punches holes in cancer cells by targeting the tumor-related glycosphingolipid Gb3. *Comms Biol* **5**, 954 (doi: 10.1038/s42003-022-03869-w) [[OpenAccess](#)] [[hal-03775900](#)]
- 365 - R. Thuenauer, K. Kihl, Y. Guo, F. Kotsis, M. Xu, A. Trefzer, S. Altmann, S. Wehrum, N. Heshmatpour, B. Faust, A. Landi, B. Diedrich, J. Dengjel, E. W. Kuehn, A. Imberty & W. Riecher (2022) The lectin LecB induces patches with basolateral characteristics at the apical membrane to promote *Pseudomonas aeruginosa* host cell invasion. *mBio* **13**, e00819-22 (doi: 10.1128/mbio.00819-22) [[OpenAccess](#)] [[hal-03683389](#)]
- 364 - H.J. Hilt, B. Tiemann, A. Shcherbakova, V. Grote, M. Hoffmann, L. Povolo, M. Lommel, S. Strahl, S. Y. Vakhrushev, E. Rapp, F.F.R. Buettner, A. Halim, A. Imberty & H. Bakker (2022) A bacterial mannose binding lectin as a tool for the enrichment of C- and O-mannosylated peptides. *Analyt. Chem.* **94**, 7329-7338 (doi: 10.1021/acs.analchem.2c00742) [[PubMed](#)] [[hal-03679028](#)]
- 363 - E. Shanina, S. Kuhadomlarp, E. Siebs, F. Fuchsberger, M. Denis, P. da Silva Figueiredo Celestino Gomes, M. H. Clausen, P. H. Seeberger, D. Rognan, A. Titz, A. Imberty & C. Rademacher (2022) Targeting undruggable carbohydrate recognition sites through focused fragment library design. *Comms. Chem.* **5**, 64 (doi: 10.1038/s42004-022-00679-3) [[OpenAccess](#)] [[hal-03674097](#)]
- 362 - J. Angulo, J. Zimmer, A. Imberty & J. Prestergard (2022) Structural biology of glycan recognition. In *Essentials of Glycobiology, Fourth Edition* A. Varki et al (eds), Cold Spring Harbor Laboratory Press, USA, pp. 403-418 (doi:10.1101/glycobiology.4e.30) [[NCBI Bookshelf](#)] [[hal-03670457](#)]
- 361 - M. E. Taylor, K. Drickamer, A. Imberty, Y. van Kooyk, R. L. Schnaar, M. E. Etzler & A. Varki

(2022) Discovery and classification of glycan-binding proteins. In *Essentials of Glycobiology, Fourth Edition* A. Varki et al (eds), Cold Spring Harbor Laboratory Press, USA, pp. 375-386 (doi:10.1101/glycobiology.4e.28) [[NCBI Bookshelf](#)] [[hal-03663250](#)]

360 - F. Tobola, M. Lepič, S. R. Zia, H. Leffler, U. J. Nilsson, O. Blixt, A. Imberty & B. Wiltschi (2022) Engineering the ligand specificity of the human Galectin-1 by incorporation of tryptophan analogs. *ChemBioChem* **23**, e202100593 (doi: 10.1002/cbic.202100593) [[PubMed](#)] [[hal-03517502](#)]

359 - E. Siebs, E. Shanina, S. Kuhadomlarp, P. da Silva Figueiredo Celestino Gomes, C. Fortin, P.H. Seeberger, D. Rognan, C. Rademacher, A. Imberty & A. Titz (2022) Targeting the central pocket of the *Pseudomonas aeruginosa* lectin LecA. *ChemBioChem* **23**, e2021005 (doi: 10.1002/cbic.202100563) [[OpenAccess](#)] [[hal-03438182](#)]

358 - N. Paracini, E. Schneck, A. Imberty & S. Micciulla (2022) Lipopolysaccharides at solid and liquid interfaces: Models for biophysical studies of the Gram-negative bacterial outer membrane. *Adv. Coll. Interface Science* **301**, 102603 (doi: 10.1016/j.cis.2022.102603) [[OpenAccess](#)] [[hal-03550501](#)]

357 - L. Gajdos, M.P. Blakeley, M. Haertlein, V. T. Forsyth, J. M. Devos & A. Imberty\* (2022) Neutron crystallography reveals mechanisms used by *Pseudomonas aeruginosa* for host-cell binding. *Nature Com.* **13**, 194 (doi: 10.1038/s41467-021-27871-8) [[BioRxiv](#)] [[hal-03527625](#)]

356 - E. Shanina, S. Kuhadomlarp, K. Lal, P.H. Seeberger, A. Imberty & C. Rademacher (2022) Druggable allosteric pockets in  $\beta$ -propeller lectins. *Angew. Chem.* **61**, e202109339 (doi: 10.1002/anie.202109339) [[OpenAccess](#)] [[hal-03412507](#)]

## 2021

355 - A. Imberty\*, F. Bonnardel & F. Lisacek\* (2021) UniLectin, a one-stop-shop to explore and study carbohydrate-binding proteins. *Curr. Protocols* **1**, e305 (doi: 10.1002/cpz1.305) [[OpenAccess](#)] [[hal-03452596](#)]

354 - L. Siukstaite\*, F. Rosato\*, A. Mitrovic, P.F. Müller, K. Kraus, S. Notova, A. Imberty\* & W. Rimer\* (2021) Bispecific Janus lectin drives crosslinking of liposomes and cancer cells leading to material uptake. *Toxins* **13**, 792 (doi: 10.3390/toxins13110792) [[OpenAccess](#)] [[hal-03425869](#)]

353 - T. Mohy El Dine, A. Diaconu, R. Jimmidi, M. Fransolet, C. Michiels, J. De Winter, E. Gillon, A. Imberty, T. Coenye, & S. P. Vincent (2021) Synthesis of Pillar[5]arene-based polycationic glyco[2]rotaxanes designed as *Pseudomonas aeruginosa* antibiofilm agents. *J. Med. Chem.* **64**, 14728-14744 (doi: 10.1021/acs.jmedchem.1c01241) [[PubMed](#)] [[hal-03360828](#)]

352 - B. Michel, A. Imberty, E. B. Heggset, K. Syverud, A. Dufresne & J. Bras (2021) Adsorption characterization of various modified  $\beta$ -cyclodextrins onto TEMPO-oxidized cellulose nanofibrils. *Sustain. Chem. Pharm.* **24**, 100523 (doi: 10.1016/j.scp.2021.100523) [[Editor link](#)] [[hal-03361958](#)]

351 - L. Siukstaite\*, A. Imberty\* & W. Rimer\* (2021) Structural diversities of lectins binding to the glycosphingolipid Gb3. *Frontiers Mol. Biosci.* **8**, 704685 (doi: 10.3389/fmolb.2021.704685) [[OpenAccess](#)] [[hal-03320206](#)]

350 - K. Lal, R. Bermeo, J. Cramer, F. Vasile, B. Ernst, A. Imberty\*, A. Bernardi\*, A. Varrot\* & L. Belvisi\* (2021) Prediction and validation of a druggable site on virulence factor of drug resistant *Burkholderia cenocepacia*. *Chemistry Eur J.* **27**, 10341-10348 (doi: 10.1002/chem.202100252) [[OpenAccess](#)] [[hal-03198933](#)]

349 - F. Bonnardel, S. M. Haslam, A. Dell, T. Feizi, Y. Liu, V. Tajadura-Ortega, Y. Akune, L. Sykes, P. R. Bennett, D. A. MacIntyre\*, F. Lisacek\* & A. Imberty\* (2021) Proteome-wide prediction of bacterial carbohydrate-binding proteins as a tool for understanding commensal and pathogen colonisation of the vaginal microbiome. *Biofilms & Microbiomes* **7**, 49 (doi: 10.1038/s41522-021-00220-9) [[OpenAccess](#)] [[hal-03320203](#)]

- 348 - A. Lebreton, F. Bonnardel, Y.-C. Dai, A. Imberty\*, F. M. Martin\* & F. Lisacek\* (2021) Comprehensive phylogenetic and bioinformatics survey of lectins in the fungal kingdom. *J. Fungi* **7**, 453 (doi: 10.3390/jof7060453) [[OpenAccess](#)] [[hal-03320200](#)]
- 347 - L. Gajdos, M. P. Blakeley, A. Kumar, M. Wimmerovičová, M. Haertlein, V. T. Forsyth, A. Imberty\* & J. M. Devos\* (2021) Visualisation of hydrogen atoms in a perdeuterated lectin-fucose complex reveals key details of protein-carbohydrate interactions. *Structure* **29**, 1003-1013 (doi: 10.1016/j.str.2021.03.003) [[OpenAccess](#)] [[hal-03180319](#)]
- 346 - S. Kuhaudomlar, E. Siebs, E. Shanina, J. Topin, I. Joachim, P. da Silva Figueiredo Celestino Gomes, A. Varrot, D. Rognan, C. Rademacher, A. Imberty\* & A. Titz\* (2021) Non-carbohydrate glycomimetics as inhibitors of calcium(II)-binding lectins. *Angew. Chem.* **60**, 2-13 (doi: 10.1002/anie.202013217) [[OpenAccess](#)] [[hal-03083693](#)]
- 345 - L. Gajdos, V.T. Forsyth, M.P. Blakeley, M. Haertlein, A. Imberty\*, E. Samain\* & J.M. Devos\* (2021) Production of perdeuterated fucose from glyco-engineered bacteria. *Glycobiology* **31**, 151-158 (doi: 10.1093/glycob/cwaa059) [[OpenAccess](#)] [[hal-02911649](#)]
- 344 - F. Bonnardel, J. Mariethoz, S. Pičević, A. Imberty\* & F. Lisacek\* (2021) LectomeXplore, an update of UniLectin for the discovery of carbohydrate-binding proteins based on a new lectin classification. *Nucleic Ac. Res.* **49**, D1548-D1554 (doi: 10.1093/nar/gkaa1019) [[OpenAccess](#)] [[hal-03000205](#)]

## 2020

- 343 - S. Suhaudomlar, L. Cerofolini, S. Santarsia, E. Gillon, M. Denis, S. Fallarini, S. Giuntini, C. Valori, G. Lombardi, M. Fragai\*, A. Imberty\*, A. Dondoni & C. Nativi\* (2020) Fucosylated ubiquitin and orthogonally glycosylated mutant A28C: Conceptually new ligands for *Burkholderia ambifaria* lectin (BambL). *Chem. Sci.* **11**, 2662-2670 (doi: 10.1039/d0sc03741a) [[OpenAccess](#)] [[hal-02995036](#)]
- 342 - S. Pičević, F. Bonnardel, F. Lisacek, A. Imberty, S. Ricard-Blum & O. Makshakova (2020) GAG-DB, the new interface of the three-dimensional landscape of glycosaminoglycans. *Biomolecules* **10**, 1660 (doi: 10.3390/biom10121660) [[OpenAccess](#)] [[hal-03083684](#)]
- 341 - E. Zahorska, S. Kuhaudomlar, S. Minervini, S. Yousaf, M. Lepsik, T. Kinsinger, A.K.H. Hirsch, A. Imberty & A. Titz (2020) A rapid synthesis of low-nanomolar divalent LecA inhibitors in four linear steps from D-galactose pentaacetate. *ChemComm* **56**, 8822-8825 (doi: 10.1039/d0cc03490h) [[OpenAccess](#)] [[hal-02911635](#)]
- 340 - S. Šiková, J. Novotná, G. Demo, G. Pompidor, E. Dubský, J. Komárek, E. Fujdiarová, J. Houser, L. Hřivňová, A. Varrot, N. Shilova, A. Imberty, N. Bovin, M. Pokorný & M. Wimmerovičová (2020) Characterization of novel lectins from *Burkholderia pseudomallei* and *Chromobacterium violaceum* with seven-bladed  $\beta$ -propeller fold. *Int. J. Biol. Macromol.* **152**, 1113-1124 (doi: 10.1016/j.ijbiomac.2019.10.200) [[PubMed](#)] [[hal-02540783](#)]
- 339 - F. Bonnardel, S. Perez, F. Lisacek\* & A. Imberty\* (2020) Structural database for lectins and the UniLectin web platform. *Methods Mol. Biol.* **2132**, 1-14 (doi: 10.1007/978-1-0716-0430-44\_1) [[PubMed](#)] [[hal-02554322](#)]
- 338 - E. Gillon, A. Varrot & A. Imberty\* (2020) LecB, a high affinity soluble fucose-binding lectin from *Pseudomonas aeruginosa*. *Methods Mol. Biol.* **2132**, 475-482 (doi: 10.1007/978-1-0716-0430-44\_47) [[PubMed](#)] [[hal-02554312](#)]
- 337 - S. Kuhaudomlar, E. Gillon, A. Varrot & A. Imberty\* (2020) LecA, a galactose-binding lectin from *Pseudomonas aeruginosa*. *Methods Mol. Biol.* **2132**, 257-266 (doi: 10.1007/978-1-0716-0430-4\_25) [[PubMed](#)] [[hal-02554317](#)]
- 336 - L. Farrera Soler, J.P. Daguer, P. Raunft, S. Barluenga, A. Imberty & N. Winssinger (2020) PNA-

Based Dynamic Combinatorial libraries (PDCL) and screening of lectins. *Bioorg. Med. Chem.* **28**, 115458 (doi: 10.1016/j.bmc.2020.115458) [[PubMed](#)] [[hal-02540785](#)]

335 - R. Thuenauer, A. Landi, K. Kienhn, A. Trefzer, S. Altmann, S. Villringer, T. Eierhoff, B. Diedrich, J. Dengjel, A. Nystriem, A. Imberty & W. Richter (2020) The *Pseudomonas aeruginosa* lectin LecB causes integrin internalization and inhibits epithelial wound healing. *mBio* **11**, e03260-19 (doi: 10.1128/mBio.03260-19) [[OpenAccess](#)] [[hal-02540781](#)]

334 - S. Notova, F. Bonnardel, F. Lisacek, A. Varrot & A. Imberty\* (2020) Structure and engineering of tandem repeat lectins. *Curr. Opin. Struct. Biol.* **62**, 39-47 (doi: 10.1016/j.sbi.2019.11.006) [[PubMed](#)] [[hal-02463790v1](#)]

## 2019

333 - R. Sommer, K. Rox, S. Wagner, D. Hauck, S. S. Henrikus, S. Newsad, T. Arnold, T. Ryckmans, M. Briestrup, A. Imberty, A. Varrot, R. W. Hartmann & A. Titz (2019) Anti-biofilm agents against *Pseudomonas aeruginosa*: a structure-activity relationship study of C-glycosidic LecB inhibitors. *J. Med. Chem.* **62**, 9201-9216 (doi: 10.1021/acs.jmedchem.9b01120) [[PubMed](#)] [[hal-02349120v1](#)]

332 - D. Goyard, B. Thomas, E. Gillon, A. Imberty\* & O. Renaudet\* (2019) Heteroglycoclusters with dual nanomolar affinities for the lectins LecA and LecB from *Pseudomonas aeruginosa*. *Frontiers Chem.* **7**, 666 (doi:10.3389/fchem.2019.00666) [[OpenAccess](#)] [[hal-02939401v1](#)]

331 - M. Lepsik\*, R. Sommer, S. Kuhaudomlarp, M. Lelimosin, E. Paci, A. Varrot, A. Titz & A. Imberty\* (2019) Induction of rare conformation of oligosaccharide by binding to calcium-dependent bacterial lectin: X-ray crystallography and modelling study. *Eur. J. Med. Chem.* **177**, 212-220 (doi: 10.1016/j.ejmech.2019.05.049) [[BioRxiv](#)] [[hal-02309977v1](#)]

330 - F. Bonnardel, A. Kumar, M. Wimmerova, M. Lahmann, S. Perez, A. Varrot, F. Lisacek\* & A. Imberty\* (2019) Architecture and evolution of blade assembly in  $\alpha$ -propeller lectins. *Structure* **11**, 764-775 (doi: 10.1016/j.str.2019.02.002) [[PubMed](#)] [[hal-02104546v1](#)]

329 - P. Le Mercier, J. Mariethoz, J. Lascano-Maillard, F. Bonnardel, A. Imberty, S. Ricard-Blum & F. Lisacek (2019) A bioinformatics view of glycan-virus interactions. *Viruses* **11**, 374 (doi:10.3390/v11040374) [[OpenAccess](#)] [[hal-02109612v1](#)]

328 - I. Marin-Montesinos, D. Goyard, E. Gillon, O. Renaudet, A. Imberty, S. Hediger & G. De Paupe (2019) Selective high-resolution DNP-enhanced NMR of biomolecular binding sites. *Chem. Sci.* **10**, 3366-3374 (doi:10.1039/c8sc05696j) [[OpenAccess](#)] [[hal-02052471v1](#)]

327 - V. Denavit, D. Laini, C. Bouzriba, E. Shanina, E. Gillon, S. Fortin, C. Rademacher, A. Imberty & D. Gigliore (2019) Stereoselective synthesis of fluorinated galactopyranosides to be used as molecular probe on galactophilic proteins: assessment of monofluorogalactosides-LecA interactions. *Chemistry Eur. J.* **25**, 4478-4490 (doi: 10.1002/chem.201806197) [[PubMed](#)] [[hal-02104563v1](#)]

326 - F. Portier, A. Imberty & S. Halila (2019) Expedient synthesis of C-glycosyl barbiturate ligands of bacterial lectins: from monomer design to glycoclusters and glycopolymers. *Bioconj. Chem.* **30**, 647-656 (doi: 10.1021/acs.bioconjchem.8b00847) [[PubMed](#)] [[hal-02322076v1](#)]

325 - I. Wilhelm, E. Levit-Zerdoun, J. Jakob, S. Villringer, M. Frensch, R. Ibelhart, A. Landi, P. Müller, A. Imberty, R. Thuenauer, J. Claudinon, H. Jumaa, M. Reth, H. Eibel, E. Hobeika & W. Richter (2019) Carbohydrate-dependent B cell activation by fucose-binding bacterial lectins. *Sci. Signal.* **12**, D1236-D1244 (doi: 10.1126/scisignal.aao7194) [[OpenAccess](#)] [[hal-02104594v1](#)]

324 - F. Bonnardel, J. Mariethoz, S. Salentin, X. Robin, M. Schroeder, S. Perez, F. Lisacek\* & A. Imberty\* (2019) UniLectin3D, a database of carbohydrate binding proteins with curated information on 3D structures and interacting ligands. *Nucleic Acid Res.* **47**, D1236-D1244 (doi: 10.1093/nar/gky832)

[\[OpenAccess\]](#) [\[hal-02104340v1\]](#)

## 2018

323 - M. Donnier-Marićhal, S. Abdullayev, M. Bauduin, Y. Pascal, M.Q. Fu, X.-P. He, E. Gillon, A. Imberty, E. Kipnis, R. Dessein & S. Vidal (2018) Tetraphenylethylene-based glycoclusters with aggregation-induced emission (AIE) properties as high affinity ligands of bacterial lectins. *Org. Biom. Chem.* **16**, 8804-8809 (doi:10.1039/C8OB02035C) [\[PubMed\]](#) [\[hal-02325377\]](#)

322 - N. Richard, L. Marti, A. Varrot, L. Guillot, J. Guitard, C. Hennequin, A. Imberty, H. Corvol, M. Chignard, V. Balloy (2018) Human bronchial epithelial cells inhibit *Aspergillus fumigatus* germination of extracellular conidia via FleA recognition. *Sci. Rep.* **8**, 15699 (doi:10.1038/s41598-018-33902-0) [\[OpenAccess\]](#) [\[hal-01907559v1\]](#)

321 - J. P. Ribeiro, S. Villringer, D. Goyard, L. Coche-Guerente, M. Hiferlin, O. Renaudet, W. Rimer & A. Imberty\* (2018) Tailor-made Janus lectin with dual avidity assembles glycoconjugate multilayers and crosslinks protocells. *Chem. Sci.* **9**, 7634-7641 (doi:10.1039/C8SC02730G) [\[OpenAccess\]](#) [\[hal-02086152v1\]](#)

320 - E. Soleilhac, L. Brillet-Guiguen, V. Roussel, R. Prudent, B. Touquet, S. Dass, S. Acisiche, V. Kasam, C. Barette, A. Imberty, V. Breton, M. Vantard, D. Horvath, C. Botti, I. Tardieu, S. Roy, E. Marechal, L. Lafanechire (2018) Specific targeting of plant and apicomplexa parasite tubulin through differential screening using in silico and assay-based approaches. *Int. J. Mol. Sci.* **19**, 3085 (doi:10.3390/ijms19103085) [\[OpenAccess\]](#) [\[hal-02106151v1\]](#)

319 - T. Dingjan, E. Gillon, A. Imberty, S. Pérez, A. Titz, P. A. Ramsland & E. Yuriev (2018) Virtual screening against carbohydrate-binding proteins: evaluation and application to bacterial *Burkholderia ambifaria* lectin. *J. Chem. Inf. Comput. Sci.* **58**, 1976-1989 (doi:10.1021/acs.jcim.8b00185) [\[PubMed\]](#) [\[hal-02106059v1\]](#)

318 - F. Tobola, M. Lelimosin, A. Varrot, E. Gillon, B. Darnhofer, O. Blixt, R. Birner-Gruenberger, A. Imberty\*, B. Wiltschi\* (2018) Effect of non-canonical amino acids on protein-carbohydrate interactions: Structure, dynamics and carbohydrate affinity of a lectin engineered with fluorinated tryptophan analogs. *ACS Chem. Biol.* **13**, 2211-2219 (doi:10.1021/acscchembio.8b00377) [\[OpenAccess\]](#) [\[hal-02106155v1\]](#)

317 - R. Sommer, S. Wagner, K. Rox, A. Varrot, D. Hauck, E.-C. Wamhoff, J. Schreiber, T. Ryckmans, T. Brunner, C. Rademacher, R. W. Hartmann, M. Brünstrup, A. Imberty & A. Titz (2018) First glycomimetic, orally bioavailable LecB inhibitors block biofilm formation of *Pseudomonas aeruginosa*. *J. Amer. Chem. Soc.* **2140**, 2537-2545 (doi:10.1021/jacs.7b11133) [\[OpenAccess\]](#) [\[hal-02106161v1\]](#)

316 S. Villringer, J. Madl, T. Sych, C. Manner, A. Imberty & W. Rimer (2018) Lectin-mediated protocell crosslinking to mimic cell-cell junctions and adhesion. *Sci. Rep.* **8**, 1932 (doi:10.1038/s41598-018-20230-6) [\[OpenAccess\]](#) [\[hal-02106164v1\]](#)

315 D. Goyard, V. Baldoneschi, A. Varrot, M. Fiore, A. Imberty\*, B. Richichi; O. Renaudet\* & C. Nativi\* (2018) Multivalent glycomimetics with affinity and selectivity towards fucose-binding receptors from emerging pathogens. *Bioconjug. Chem.* **29**, 83-88 (doi:10.1021/acs.bioconjchem.7b00616) [\[PubMed\]](#) [\[hal-02356130v1\]](#)

## 2017

314 S. Wagner, D. Hauck, M. Hofmann, I. Joachim, R. Sommer, R. Müller, A. Imberty, A. Varrot & A. Titz (2017) Covalent lectin inhibition and its application in bacterial biofilm imaging. *Angew. Chem.* **56**, 16559-16564 (doi:10.1002/anie.201709368) [\[OpenAccess\]](#) [\[hal-02310009v1\]](#)

313 M. Donnier-Marićhal, N. Galanos, T. Grandjean, Y. Pascal, D. Ji, L. Dong, E. Gillon, X.

- He, A. Imberty, E. Kipnis, R. Dessein & S. Vidal (2017) Perylenediimide-based glycoclusters as high affinity ligands of bacterial lectins: Synthesis, binding studies and anti-adhesive properties. *Org. Biomol. Chem.* **15**, 10037-10043 (doi: 10.1039/C7OB02749D) [[PubMed](#)] [[hal-02347808](#)]
- 312  $\frac{1}{2}$  A. Wilches-Torres, J. Rojas-Carabello, E. Sanabria, E. Reyes-Montano, J.L. Fernandez-Alonso, A. Varrot, A. Imberty & N. Vega (2017) Purification and biochemical characterization of a T/Tn specific lectin from *Lepechinia bullata* seeds (Lamiaceae). *Int. J. Pharmacy Pharmaceut. Sci.* **9**, 165-174 (doi:10.22159/ijpps.2017v9i11.21514) [[Open Access](#)] [[hal-04000502](#)]
- 311  $\frac{1}{2}$  A. Imberty & J. Prestergard (2017) Structural biology of glycan recognition. In *Essentials of Glycobiology, 3rd Edition*, A. Varki et al (eds), Cold Spring Harbor Laboratory Press, USA, pp. 387-400 (doi:10.1101/glycobiology.3e.030) [[NCBI Bookshelf](#)]
- 310  $\frac{1}{2}$  T. Dingjan, A. Imberty, S. Pérez, E. Yuriev, P.A. Ramsland (2017) Molecular simulations of carbohydrates with a fucose-binding *Burkholderia ambifaria* lectin suggest modulation by surface residues outside the fucose-binding pocket. *Front. Pharmacol.* **3**, 393 (doi:10.3389/fphar.2017.00393) [[Open Access](#)] [[hal-02377915](#)]
- 309  $\frac{1}{2}$  T. Machida, A. Novoa,  $\frac{1}{2}$ . Gillon, S. Zheng, J. Claudinon, T. Eierhoff, A. Imberty\*, W. Rimer\* & N. Winssinger\* (2017) Dynamic cooperative glycan assembly blocks binding of bacterial lectins to epithelial cells. *Angew. Chem. Int. Ed.* **56**, 6762-6766 (doi:10.1002/anie.201700813) [[PubMed](#)] [[hal-02377934](#)]
- 308  $\frac{1}{2}$  J.E. Heggelund, A. Varrot, A. Imberty & U. Krengel (2017) Histo-blood group antigens as mediators of infections. *Curr. Opin. Struct. Biol.* **44**, 190-200 (doi:10.1016/j.sbi.2017.04.001) [[PubMed](#)] [[hal-02377944](#)]
- 307  $\frac{1}{2}$  S. Zheng, T. Eierhoff, S. Aigal, A. Brandel, R. Thuenauer, S.de Bentzmann, A. Imberty & W. Rimer (2017) The *Pseudomonas aeruginosa* lectin LecA triggers host cell signalling by glycosphingolipid-dependent phosphorylation of the adaptor protein CrkII. *BBA - Mol. Cell Res.* **1864**, 1236-12455 (doi:10.1016/j.bbamcr.2017.04.005) [[PubMed](#)] [[hal-02378055](#)]
- 306  $\frac{1}{2}$  J.P. Ribeiro, M.A.A. Hassan, R. Rouf, E. Tiralongo, T.W. May, C.J. Day, A. Imberty, J. Tiralongo & A. Varrot (2017) Biophysical characterization and structural determination of the potent cytotoxic *Psathyrella asperspora* lectin. *Proteins* **85**, 969-975 (doi:10.1002/prot.25265) [[PubMed](#)] [[hal-02378060](#)]
- 305  $\frac{1}{2}$  C. Pifferi, D. Goyard, E. Gillon, A. Imberty\* & O. Renaudet\* (2017) Synthesis of mannosylated glycodendrimers and evaluation against BC2L-A lectin from *Burkholderia cenocepacia*. *ChemPlusChem* **82**, 390-398 (doi:10.1002/cplu.201600569) [[OpenAccess](#)] [[hal-01649375](#)]
- 304  $\frac{1}{2}$  O. Machon, S.F. Baldini, J.P. Ribeiro, A. Steenackers, A. Varrot, T. Lefebvre\* & A. Imberty\* (2017) Recombinant fungal lectin as a new tool to investigate O-GlcNAcylation processes. *Glycobiology* **27**, 123-128 (doi:10.1093/glycob/cww105) [[PubMed](#)] [[hal-02377959](#)]
- 303  $\frac{1}{2}$  S.K. Müller, I. Wilhelm, T. Schubert, K. Zittlau, A. Imberty, J. Madl, T. Eierhoff, R. Thuenauer & W. Rimer (2017) Gb3-binding lectins as potential carriers for transcellular drug delivery. *Exp. Opin. Drug Deliver.* **2**, 141-153 (doi:10.1080/17425247.2017.1266327) [[PubMed](#)] [[hal-02378059](#)]
- 302  $\frac{1}{2}$  S. Pérez, A. Sarkar, A. Rivet, S. Drouillard, C. Breton & A. Imberty\* (2017) Glyco3D: A suite of inter-linked databases of 3D structures of complex carbohydrates, lectins, antibodies and glycosyltransferases. In *A Practical Guide to Using Glycomics Databases*, K.F. Aoki-Kinoshita (ed), Springer, Japan, pp. 133-161 (doi:10.1007/978-4-431-56454-6\_7) [[Link](#)]
- 301  $\frac{1}{2}$  R. Sommer, D. Hauck, A. Varrot, A. Imberty, M. Künzler & A. Titz (2016) O-alkylated heavy atom carbohydrate probes for protein X-ray crystallography: Studies towards the synthesis of methyl 2-O-methyl-L-selenofucopyranoside. *Beilstein J. Org. Chem.* **12**, 2828-2833

(doi:10.3762/bjoc.12.282) [[Open Access](#)] [[hal-02381861](#)]

300 ĩĳ N. Galanos, Y. Chen, P.M. Zachary, E. Gillon, J.P. Dutasta, A. Star, A. Imberty, A. Martinez & S. Vidal (2016) Cyclotrimeratrylene-based glycoclusters as high affinity ligands of bacterial lectins from *Pseudomonas aeruginosa* and *Burkholderia ambifaria*. *ChemistrySelect* **1**, 5863-5868 (doi:10.1002/slct.201601324) [[link](#)] [[hal-01470832v1](#)]

299 ĩĳ D. Zalem, J.P. Ribeiro, A. Varrot, M. Lebens, A. Imberty & S. Teneberg (2016) Biochemical and structural characterization of the novel sialic acid-binding site of *Escherichia coli* heat-labile enterotoxin LT-IIb. *Biochem. J.* **274**, 3923-3936 (doi:10.1042/BCJ20160575) [[PubMed](#)] [[hal-02381852](#)]

298 ĩĳ R. Marchetti, S. Perez, A. Arda, A. Imberty, J. Jimenez-Barbero, A. Silipo & A. Molinaro (2016) ĩĳRules of Engagementĳ of proteinĳglycoconjugate interactions: A molecular view achievable by NMR spectroscopy and molecular modelling. *ChemistryOpen* **5**, 274-296 (doi:10.1002/open.201600024) [[Open Access](#)]

297 ĩĳ R. Sommer, S. Wagner, A. Varrot, C. Nycholat, A. Khaledi, S. Hiĳussler, J. Paulson, A. Imberty & A. Titz (2016) The virulence factor LecB varies in clinical isolates: consequences for ligand binding and drug discovery. *Chem. Sci.*, **7**, 4990-5001 (doi:10.1039/C6SC00696E) [[Open Access](#)] [[hal-02381872](#)]

296 ĩĳ J. Topin, M. Lelimosin, J. Arnaud, A. Audfray, S. Piĳrez, A. Varrot & A. Imberty\* (2016) The hidden conformation of Lewis x, a human histo-blood group antigen, is a determinant for recognition by pathogen lectins. *ACS Chem. Biol.* **11**, 2011-2020 (doi:10.1021/acschembio.6b00333) [[PubMed](#)] [[hal-02381875](#)]

295 ĩĳ J. Ribeiro, W. Pau, C. Pifferi, O. Renaudet, A. Varrot, L. K. Mahal & A. Imberty\* (2016) Characterization of a high-affinity sialic acid specific CBM40 from *Clostridium perfringens* and engineering of divalent form. *Biochem. J.*, **473**, 2109-2118 (doi:10.1042/BCJ20160340) [[PubMed](#)] [[hal-03641270](#)]

294 ĩĳ A. M. Boukerb, A. Decor, S. Ribun, R. Tabaroni, A. Rousset, L. Commin, S. Buff, A. Doleans-Jordheim, S. Vidal, A. Varrot, A. Imberty & B. Cournoyer (2016) Genomic rearrangements and functional diversification of lecA and lecB lectin-coding regions impacting the efficacy of glycomimetics directed against *Pseudomonas aeruginosa*. *Frontiers Microbiol.* **7**, 811 (doi:10.3389/fmicb.2016.00811) [[Open Access](#)] [[hal-01397377](#)]

293 ĩĳ A. Breiman, M. D. Lopez Robles, S. de Carnĳ Trĳcession, K. Echasserieau, K. Bernardeau, K. Drickamer, A. Imberty, S. Barillĳ-Nion, F. Altare & J. Le Pendu (2016) Carcinoma-associated fucosylated antigens are markers of the epithelial state and can contribute to cell adhesion through CLEC17A (Prolectin). *Oncotarget*, **7**, 14064-14082 (doi:10.18632/oncotarget.7476) [[Open Access](#)] [[inserm-01280841](#)]

292 ĩĳ C. Cott, R. Thuenauer, A. Landi, K. Kiĳhn, S. Juillot, A. Imberty, J. Madl, T. Eierhoff & W. Riĳmer (2016) *Pseudomonas aeruginosa* lectin LecB inhibits tissue repair processes by triggering beta-catenin degradation. *BBA Mol. Cell Res.*, **1863**, 1105-1118 (doi:10.1016/j.bbamcr.2016.02.004) [[Open Access](#)]

291 ĩĳ N. Galanos E. Gillon, A. Imberty\*, S.E. Matthews & S. Vidal\* (2016) Pentavalent pillar[5]arene-based glycoclusters and their multivalent binding to pathogenic bacterial lectins. *Org. Biomol. Chem.*, **14**, 3476-3481 (doi:10.1039/C6OB00220J) [[PubMed](#)] [[hal-02123866](#)]

290 ĩĳ G. Beshr, R. Sommer, D. Hauck, D.C.B. Siebert, A. Hofmann, A. Imberty & A. Titz (2016) Development of a competitive binding assay for the *Burkholderia cenocepacia* lectin BC2L-A and structure activity relationship of natural and synthetic inhibitors. *MedChemComm*, **7**, 519-530 (doi:10.1039/C5MD00557D) [[link](#)]

289 ĩĳ K. Buffet, I. Nierengarten, N. Galanos, E. Gillon, M. Holler, A. Imberty\*, S.E. Matthews, S. Vidal\*, S.P. Vincent\*, & J.F. Nierengarten\* (2016) Pillar[5]arene-based glycoclusters: synthesis and multivalent binding to pathogenic bacterial lectins. *Chemistry*, **22**, 2955-2963



(doi:10.1002/chem.201600405) [[PubMed](#)] [[hal-01547108](#)]

288  $\frac{1}{2}$  S.P. Vincent\*, K. Buffet, I. Nierengarten, A. Imberty\* & J.F. Nierengarten\* (2016) Biologically active heteroglycoclusters constructed on a pillar[5]arene-containing [2]rotaxane scaffold. *Chemistry*, **22**, 88-92 (doi:10.1002/chem.201504110) [[PubMed](#)]

287  $\frac{1}{2}$  G. Michaud, R. Visini, M. Bergmann, G. Salerno, R. Bosco, E. Gillon, B. Richichi, C. Nativi, A. Imberty, A. Stocker, T. Darbre & J.-L. Reymond (2016) Overcoming antibiotic resistance in *Pseudomonas aeruginosa* biofilms using glycopeptide dendrimers. *Chem. Sci.*, **7**, 166-182 (doi:10.1039/c5sc03635f) [[Open Access](#)]

286  $\frac{1}{2}$  M. Bergmann, G. Michaud, R. Visini, X. Jin, E. Gillon, A. Stocker, A. Imberty, T. Darbre & J.L. Reymond (2016) Multivalency effects in *Pseudomonas aeruginosa* biofilm inhibition and dispersal by glycopeptide dendrimers targeting lectin LecA. *Org. Biomol. Chem.*, **14**, 138  $\frac{1}{2}$  148 (doi:10.1039/c5ob01682g) [[Open Access](#)]

## 2015

285  $\frac{1}{2}$  R. Sommer, D. Hauck, A. Varrot, S. Wagner, A. Audfray, A. Prestel, H. M. M $\ddot{u}$ ller, A. Imberty & A. Titz (2015) Cinnamide derivatives of D-mannose as inhibitors of the bacterial virulence factor LecB from *Pseudomonas aeruginosa*. *ChemistryOpen*, **4**, 756  $\frac{1}{2}$  767 [[Open Access](#)]

284  $\frac{1}{2}$  R. Visini, X. Jin, M. Bergmann, G. Michaud, F. Pertici, O. Fu, A. Pukin, T. R. Branson, D. M. E. Thies-Weesie, J. Kemmink, E. Gillon, A. Imberty, A. Stocker, T. Darbre, R. Pieters & J.-L. Reymond (2015) Structural insight into multivalent galactoside binding to *Pseudomonas aeruginosa* lectin LecA. *ACS Chem. Biol*, **10**, 2455-2462 [[PubMed](#)]

283  $\frac{1}{2}$  K. K $\ddot{u}$ hn, C. Cott, S. Bohler, S. Aigal, S. Zheng, S. Villringer, A. Imberty, J. Claudinon & W. R $\ddot{i}$ mer (2015) The interplay of autophagy and  $\beta$ -Catenin signaling regulates differentiation in acute myeloid leukemia. *Cell Death Discov*, **1**, 15031 [[Open Access](#)]

282  $\frac{1}{2}$  C. Ligeour, O. Vidal, L. Dupin, F. Casoni, E. Gillon, A. Meyer, S. Vidal, G. Vergoten, J. M. Lacroix, E. Souteyrand, A. Imberty, J.-J. Vasseur, Y. Chevotot & F. Morvan (2015) Mannose-centered aromatic galactocusters inhibit the biofilm formation of *Pseudomonas aeruginosa*. *Org. Biomol. Chem*, **13**, 8433-8444 [[PubMed](#)] [[hal-01317684](#)]

281  $\frac{1}{2}$  C. Caumes, E. Gillon, B. Legeret, C. Taillefumier, A. Imberty\* & S. Faure\* (2015) Multivalent thioglycopeptoids via photoclick chemistry: potent affinities towards LecA and BC2L-A lectins. *Chem. Comm.*, **51**, 12301-12304, [[PubMed](#)]

280  $\frac{1}{2}$  A. Audfray, M. Beldjoudi, A. Breiman, A. Hurbin, I. Boos, C. Unverzagt, M. Bouras, S. Lantuejoul, J.-L. Coll, A. Varrot, J. Le Pendu\*, B. Busser\* & A. Imberty\* (2015) A recombinant fungal lectin for labeling truncated glycans on human cancer cells. *PLoS One*, **10**(6), e0128190, [[PubMed](#)] [[hal-02349425](#)]

279  $\frac{1}{2}$  K. Buffet, E. Gillon, M. Holler, J.-F. Nierengarten\*, A. Imberty\* & S. P. Vincent\* (2015) Fucofullerenes as tight ligands of RSL and LecB, two bacterial lectins. *Org. Biomol. Chem.*, **13**, 6482-6492, [[PubMed](#)]

278  $\frac{1}{2}$  A.S. do Nascimento, S. Serna, A. Beloqui, A. Arda, A.H. Sampaio, J. Walcher, D. Ott, C. Unverzagt, N.-C. Reichardt, J. Jimenez-Barbero, K.S. Nascimento, A. Imberty\*, B.S. Cavada\* & A. Varrot\* (2015) Algal lectin binding to core (a1-6) fucosylated N-glycans: structural basis for specificity and production of recombinant protein. *Glycobiology*, **25**, 607-616, [[PubMed](#)]

277  $\frac{1}{2}$  J. C. Mu $\ddot{u}$ oz-Garc $\ddot{a}$ , E. Chabrol, R. Vives, A. Thomas, J. de Paz, J. Rojo, A. Imberty, F. Fieschi, P. Nieto & J. Angulo (2015) Langerin-heparin interaction: Two binding sites for small and large ligands as revealed by a combination of NMR spectroscopy and cross-linking mapping experiments. *J. Amer. Chem. Soc*, **137**, 4100-4110, [[PubMed](#)] [[hal-03754287](#)]

276  $\ddot{\imath}$   $\frac{1}{2}$  S. Pi  $\frac{1}{2}$ rez, T. Tubiana, A. Imberty & M. Baaden (2015) Three-dimensional representations of complex carbohydrates and polysaccharides: A video game based computer graphic software. *Glycobiology*, **25**, 483-491, [[PubMed](#)] [[hal-01230766](#)]

275  $\ddot{\imath}$   $\frac{1}{2}$  S. Pi  $\frac{1}{2}$ rez\*, A. Sarkar, A. Rivet, C. Breton & A. Imberty\* (2015) Glyco3D : A portal for structural glycosciences. *Meth. Mol. Biol.* **1273**, 241-258 [[PubMed](#)]

274  $\ddot{\imath}$   $\frac{1}{2}$  J. Houser, J. Komarek, G. Cioci, A. Varrot, A. Imberty & M. Wimmerova (2015) Structural insights into *Aspergillus fumigatus* lectin specificity - AFL binding sites are functionally non-equivalent. *Acta Crystallogr. D Biol. Crystallogr.*, **71**, 442-453, [[PubMed](#)] [[hal-03641311](#)]

273  $\ddot{\imath}$   $\frac{1}{2}$  S. Cecioni, A. Imberty & S. Vidal (2015) Glycomimetics versus multivalent glycoconjugates for the design of high affinity lectin ligands. *Chem. Rev.*, **115**, 525-561, [[PubMed](#)]

272  $\ddot{\imath}$   $\frac{1}{2}$  S. Pi  $\frac{1}{2}$ rez, A. Rivet & A. Imberty\* (2015) 3D-Lectin Database. In  $\ddot{\imath}$   $\frac{1}{2}$  *Glycoscience: Biology and Medicine*  $\frac{1}{2}$ , N. Taniguchi, G.W. Hart, P. Seeberger & C.H. Wong Eds., Springer, Japan, pp 283-289,

## 2014

271  $\ddot{\imath}$   $\frac{1}{2}$  A. Boukerb, A. Rousset, N. Galanos, J.-B. Mi  $\frac{1}{2}$ ar, M. Thepaut, T. Grandjean, E. Gillon, S. Cecioni, C. Abderrahmen, K. Faure, D. Redelberger, E. Kipnis, R. Dessen, S. Havet, B. Darblade, S. Matthews, S. de Bentzmann, B. Gu  $\frac{1}{2}$ ry, B. Cournoyer, A. Imberty, S. Vidal (2014) Anti-adhesive properties of glycoclusters against *Pseudomonas aeruginosa* lung infection. *J. Med. Chem.*, **57**, 10275-10289. [[PubMed](#)]

270 - J.C. Mu  $\frac{1}{2}$ oz-Garci  $\frac{1}{2}$ a, M.J. Garc  $\frac{1}{2}$ a-Jim  $\frac{1}{2}$ nez, P. Carrero,  $\ddot{\imath}$   $\frac{1}{2}$ . Canales, J. Jim  $\frac{1}{2}$ nez Barbero, M. Mart  $\frac{1}{2}$ n-Lomas, A. Imberty, J.L. de Paz, J. Angulo, H. Lortat  $\frac{1}{2}$ Jacob & P.M. Nieto (2014) Importance of the polarity of the glycosaminoglycan chain on the interaction with FGF-1. *Glycobiology* **24**, 1004-1009. [[PubMed](#)] [[hal-01065053](#)]

269 - M. Smadhi, S. de Bentzmann\*, A. Imberty\*, M. Gingras, R. Abderrahim & P.G. Goekjian\* (2014) Expeditive synthesis of trithiotriazine-cored glycoclusters and inhibition of *Pseudomonas aeruginosa* biofilm formation. *Beilstein J. Org. Chem.* **10**, 1981-1990. [[open access](#)] [[hal-01066711](#)]

268 - A. Novoa, T. Machida, S. Barluenga, A. Imberty\* & N. Winssinger\* (2014) PNA-encoded synthesis (PES) of a 10 000-member heteroglycoconjugate library and microarray analysis of diverse lectins. *ChemBioChem* **111**, 2058-2065. [[PubMed](#)]

267 - T. Eierhoff, B. Bastian, R. Thuenauer, J. Madl, A. Audfray, S. Aigal, S. Juillot, G. E. Rydell, S. Mi  $\frac{1}{2}$ ller, S. de Bentzmann, A. Imberty, C. Fleck & W. Ri  $\frac{1}{2}$ mer (2014) A lipid zipper triggers bacterial invasion. *Proc. Natl. Acad. Sci. U.S.A.* **111**, 12895-12900. [[PubMed](#)]

266 - J. Arnaud, K. Tri  $\frac{1}{2}$ ndle, J. Claudinon, A. Audfray, A. Varrot, W. Ri  $\frac{1}{2}$ mer\* & A. Imberty\* (2014) Membrane deformation by neolectins with engineered glycolipid binding sites. *Angew. Chem. Int. Ed.* **53**, 9267  $\frac{1}{2}$  9270. [[PubMed](#)]

265 - A. Novoa, T. Eierhoff, J. Topin, A. Varrot, S. Barluenga, A. Imberty\*, W. Ri  $\frac{1}{2}$ mer\* & N. Winssinger\* (2014) Novel LecA ligand identified from glycan array inhibits host cell invasion by *Pseudomonas aeruginosa*. *Angew. Chem. Int. Ed.* **53**, 8885  $\frac{1}{2}$  8889. [[PubMed](#)]

264 - R. Jorgensen, G. Batot, K. Mannerstedt, A. Imberty, C. Breton, O. Hindsgaul, A. Royant & M. M. Palcic (2014) Structures of a human blood group glycosyltransferase in complex with a photo-activatable UDP-Gal derivative reveal two different binding conformations. *Acta Cryst.* **F70**, 1015  $\frac{1}{2}$  1021. [[PubMed](#)]

263 - S. De Bentzmann, A. Varrot & A. Imberty A\* (2014) Monitoring lectin interactions with carbohydrates. *Methods Mol. Biol.* **1149**, 403-414. [[PubMed](#)]

262 - B. Blanchard, A. Imberty & A. Varrot (2014) Secondary sugar binding site identified for LecA lectin from *Pseudomonas aeruginosa*. *Proteins* **82**, 1060-1065. [[PubMed](#)]

261 - A.A. Watrelot, C. Le Bourvellec, A. Imberty & C. Renard (2014) Neutral sugars side chains of pectins limit interactions with procyanidins. *Carbohydr. Polym.* **99**, 527-536. [[PubMed](#)] [[hal-02640610](#)]

### 2013

260 - J. Houser, J. Komarek, N. Kostlanova, G. Cioci, A. Varrot, S.C. Kerr, M. Lahmann, V. Balloy, J.V. Fahy, M. Chignard, A. Imberty & M. Wimmerova (2013) A soluble fucose-specific lectin from *Aspergillus fumigatus* conidia - Structure, specificity and possible role in fungal pathogenicity. *PLoS ONE* **8**, e83077. [[PubMed](#)] [[hal-01572869](#)]

259 - D. Sicard, Y. Chevotot, E. Souteyrand, A. Imberty, S. Vidal & M. Phaner-Goutorbe (2013) Molecular arrangement between multivalent glycocluster and *Pseudomonas aeruginosa* LecA (PA-IL) by atomic force microscopy: influence of the glycocluster concentration. *J. Mol. Recognit.* **26**, 694-699. [[PubMed](#)]

258 - A. Varrot, S.M. Basheer & A. Imberty\* (2013) Fungal lectins: Structure, function and potential applications. *Curr. Opin. Struct. Biol.* **23**, 678-685. [[PubMed](#)]

257 - C. Ligeour, A. Audfray, E. Gillon, A. Meyer, N. Galanos, S. Vidal, J.J. Vasseur, A. Imberty\* & F. Morvan\* (2013) Synthesis of antenna and mannose-centered fucosylated glycoclusters and their binding studies with *Burkholderia ambifaria* lectin (BamBL). *RSC Adv.* **3**, 19515-19524. [[On Line](#)] [[hal-00874578](#)]

256 - M. Reynolds, M. Marradi, A. Imberty, S. Penades & S. Perez (2013) Influence of ligand presentation density on the molecular recognition of mannose-functionalised glyconanoparticles by bacterial lectin BC2L-A. *Glycoconj. J.* **30**, 747-757. [[PubMed](#)]

255 - M. Fiore, N. Berthet, A. Marra, E. Gillon, P. Dumy, A. Dondoni, A. Imberty\* & O. Renaudet\* (2013) Tetravalent glycocyclopeptide with nanomolar affinity to wheat germ agglutinin. *Org. Biomol. Chem.* **11**, 7113-7122. [[PubMed](#)]

254 - J. Rodrigue, G. Ganne, B. Blanchard, C. Saucier, D. Giguerre, T. C. Shiao, A. Varrot, A. Imberty\* & R. Roy\* (2013) Aromatic thioglycoside inhibitors against the virulence factor LecA from *Pseudomonas aeruginosa*. *Org. Biomol. Chem.* **11**, 6906-6918. [[PubMed](#)]

253 - J. Arnaud, J. Claudinon, K. Trindle, M. Trovaslet, G. Larson, A. Thomas, A. Varrot, W. Richter\*, A. Imberty\* & A. Audfray (2013) Reduction of lectin valency drastically changes glycolipid dynamics in membranes, but not surface avidity. *ACS Chem. Biol.* **8**, 1918-1924. [[PubMed](#)]

252 - J. Fliegmann, S. Canova, C. Lachaud, S. Uhlenbroich, V. Gascioli, C. Pichereaux, M. Rossignol, C. Rosenberg, M. Cumener, D. Pitorre, B. Lefebvre, C. Gough, E. Samain, S. Fort, H. Driguez, B. Vauzeilles, J.-M. Beau, A. Nurisso, A. Imberty, J. Cullimore & J.-J. Bono (2013) Lipochitooligosaccharidic symbiotic signals are recognized by the LysM receptor-like kinase LYR3 in the legume *Medicago truncatula*. *ACS Chem. Biol.* **8**, 1900-1906. [[PubMed](#)]

251 - J.N. Berthet, B. Thomas, I. Bossu, E. Dufour, E. Gillon, J. Garcia, N. Spinelli, A. Imberty, P. Dumy & O. Renaudet (2013) High affinity glycodendrimers for the lectin LecB from *Pseudomonas aeruginosa*. *Bioconj. Chem.* **24**, 1598-1611. [[PubMed](#)]

250 - M. L. Gening, Y. E. Tsvetkov, D. V. Titov, A. G. Gerbst, O. N. Yudina, A. A. Grachev, A. S. Shashkov, S. Vidal, A. Imberty, T. Saha, D. Kand, P. Talukdar, G. B. Pier & N. E. Nifantiev (2013) Linear and cyclic oligo-beta(1-6)-D-glucosamines: Synthesis, conformations, and applications for design of a vaccine and oligodentate glycoconjugates. *Pure Appl. Chem.* **85**, 1879-1891, 2013. [[On Line](#)]

249 - D. Hauck, I. Joachim, B. Frommeyer, A. Varrot, B. Philipp, H. M. Moller, A. Imberty, T.E. Exner &

A. Titz (2013) Discovery of two classes of potent glycomimetic inhibitors of *Pseudomonas aeruginosa* LecB with distinct binding modes. *ACS Chem. Biol.* **8**, 1775-1784. [[PubMed](#)]

248 - J. Topin, J. Arnaud, A. Sarkar, A. Audfray, E. Gillon, S. Perez, H. Jamet, A. Varrot, A. Imberty\* & A. Thomas (2013) Deciphering the glycan preference of bacterial lectins by glycan array and molecular docking with validation by microcalorimetry and crystallography. *PLoS ONE*. **8**, e71149. [[PubMed](#)] [[hal-03068180](#)]

247 - A. Sarkar, C. Fontana, A. Imberty, S. Perez & G. Widmalm (2013) Conformational preferences of the O-antigen polysaccharides of *Escherichia coli* O5ac and O5ab using NMR spectroscopy and molecular modeling. *Biomacromolecules*. **14**, 2215-2224. [[PubMed](#)]

246 - M.L. Gening, D.V. Titov, S. Cecioni, A. Audfray, A.G. Gerbst, Y.E. Tsvetkov, V.B. Krylov, A. Imberty\*, N.E. Nifantiev\* & S. Vidal\* (2013) Synthesis of multivalent carbohydrate-centered glycoclusters as nanomolar ligands of the bacterial lectin LecA from *Pseudomonas aeruginosa*. *Chem. Eur. J.* **19**, 9272-9285. [[PubMed](#)]

245 - E. Saesen, S. Sarrazin, C. Laguri, R. Sadir, D. Maurin, A. Thomas, A. Imberty & H. Lortat-Jacob (2013) Insights into the mechanism by which Interferon-g basic amino acid clusters mediate protein binding to heparan sulfate. *J. Am. Chem. Soc.* **135**, 9384-9390. [[PubMed](#)]

244 - A. Audfray, A. Varrot & A. Imberty\* (2013) Bacteria love our sugars: Interaction between soluble lectins and human fucosylated glycans, structures, thermodynamics and design of competing glycoconjugates. *C. R. Chimie* **16**, 482-490 [[On line](#)]

243 - B. Richichi, A. Imberty, E. Gillon, R. Bosco, I. Sutkeviciute, F. Fieschi & C. Nativi (2013) Synthesis of a selective inhibitor of a fucose binding bacterial lectin from *Burkholderia ambifaria*. *Org. Biomol. Chem.* **11**, 4086-4094, 2013 [[PubMed](#)]

242 - A. Bernardi, J. Jimenez-Barbero, A. Casnati, C.D. Castro, T. Darbre, F. Fieschi, J. Finne, H. Funken, K.-E. Jaeger, M. Lahmann, T.K. Lindhorst, M. Marradi, P. Messner, A. Molinaro, P. Murphy, C. Nativi, S. Oscarson, S. Penades, F. Peri, R.J. Pieters, O. Renaudet, J.-L. Reymond, B. Richichi, J. Rojo, F. Sansone, C. Schaffer, W.B. Turnbull, T. Velasco-Torrijos, S. Vidal, S. Vincent, T. Wennekes, H. Zuilhof & A. Imberty\* (2013) Multivalent glycoconjugates as anti-pathogenic agents. *Chem. Soc. Rev.* **42**, 4709-4727, 2013 [[open access](#)] [[hal-01326075](#)]

241 - J. Arnaud, A. Audfray & A. Imberty\* (2013) Binding sugars: from natural lectins to synthetic receptors and engineered neolectins. *Chem. Soc. Rev.* **42**, 4798-4813, 2013 [[PubMed](#)]

240 - A.A. Watrelot, C. Le Bourvellec, A. Imberty & C.M. Renard (2013) Interactions between pectic compounds and procyanidins are influenced by methylation degree and chain length. *Biomacromolecules* **14**, 709-718. [[PubMed](#)]

239 - L. Ballut, N. Sapay, E. Chautard, A. Imberty & S. Ricard-Blum (2013) Mapping of heparin/heparan sulfate binding sites on avb3 integrin by molecular docking. *J. Mol. Recogn.* **26**, 76-85. [[PubMed](#)]

238 - N. Sapay, A. Nurisso & A. Imberty\* (2013) Simulation of carbohydrates: from molecular docking to molecular dynamics simulation. *Methods Mol. Biol.* **924**, 469-483. [[PubMed](#)]

## 2012

237 - C. Le Bourvellec, A.A. Watrelot, C. Ginies, A. Imberty & C.M. Renard (2012) Impact of processing on the non-covalent interactions between procyanidin and apple cell wall. *J. Agric. Food Chem.* **60**, 9484-9494. [[PubMed](#)]

236 - R. Marchetti, L. Malinowska, E. Lameignere, L. Adamova, C. de Castro, G. Cioci, C. Stanetty, P. Kosma, A. Molinaro, M. Wimmerova, A. Imberty\* & A. Silipo\* (2012) *Burkholderia cenocepacia* lectin A binding to heptoses from the bacterial lipopolysaccharide. *Glycobiology* **22**, 1387-1398. [[PubMed](#)]

[\[hal-00727764\]](#)

- 235 - R.Q. Benevides, G. Ganne, R. Simoes, M. Niemietz, C. Unverzagt, C. Breton, A. Varrot, B.S. Cavada, & A. Imberty\* (2012) A lectin from *Platypodium elegans* with unusual specificity and affinity for asymmetric complex N-glycans. *J. Biol. Chem.* **287**, 26352-26364. [\[PubMed\]](#) [\[hal-00722896\]](#)
- 234 - S. Cecioni, S. E. Matthews, H. Blanchard, J.P. Praly, A. Imberty & S. Vidal (2012) Synthesis of lactosylated glycoclusters and inhibition studies with plant and human lectins. *Carbohydr. Res* **356**, 132-141. [\[PubMed\]](#)
- 233 - H. Lortat-Jacob, I. Burhan, A. Scarpellini, A. Thomas, A. Imberty, T. Johnson, A. Gutierrez & E.A.M. Verderio (2012) Transglutaminase-2 interaction with heparin: identification of a heparin binding site that regulates cell adhesion to fibronectin-transglutaminase-2 matrix. *J. Biol. Chem.* **287**, 18005-18017. [\[PubMed\]](#) [\[hal-00718061\]](#)
- 232 - S. Cecioni, J.P. Praly, S. E. Matthews, M. Wimmerová, A. Imberty\* & S. Vidal\* (2012) Rational design and synthesis of optimized glycoclusters for multivalent lectin carbohydrate interactions: influence of the linker arm. *Chemistry Eur. J.* **18**, 6250-6263. [\[PubMed\]](#)
- 231 - M. Reynolds, M. Marradi, A. Imberty, S. Penades & S. Perez (2012) Multivalent gold glycoclusters: High affinity molecular recognition by bacterial lectin PA-IL. *Chemistry Eur. J.* **18**, 4264-4273. [\[PubMed\]](#)
- 230 - A. Audfray, J. Claudinon, S. Abounit, N. Ruvoën-Clouet, G. Larson, D.F. Smith, M. Wimmerová, J. Le Pendu, W. Römer, A. Varrot & A. Imberty\* (2012) The fucose-binding lectin from opportunistic pathogen *Burkholderia ambifaria* binds to both plant and human oligosaccharidic epitopes. *J. Biol. Chem.* **287**, 4335-4347. [\[PubMed\]](#)
- 229 - Y. Chen, H. Vedala, G.P. Kotchey, A. Audfray, S. Cecioni, A. Imberty, S. Vidal & A. Star (2012) Electronic detection of lectins using carbohydrate functionalized nanostructures: graphene versus carbon nanotubes. *ACS Nano* **6**, 760-770. [\[PubMed\]](#) [\[hal-00695902\]](#)
- 228 - N. Sapay, E. Cabannes, M. Petitou & A. Imberty\* (2012) Molecular model of human heparanase with proposed binding mode of a heparan sulfate oligosaccharide and catalytic amino acids. *Biopolymers* **97**, 21-34. [\[PubMed\]](#)

## 2011

- 227 - A. Imberty, M. Audry, S. Famser Hansen & C. Breton (2011) Structural and functional aspects of glycosyltransferases. In *Glycosylation in diverse cell systems: challenges and new frontiers in experimental glycobiology*, S. Brooks, P. Rudd & B. Appelmelk (eds), Series *Essential Reviews In Experimental Biology*, Vol.4, Society for Experimental Biology, London, pp 25-44.
- 226 - J. Trepreau, E. de Rosny, C. Duboc, G. Sarret, I. Petit-Hartlein, A. Maillard, A. Imberty, O. Proux & J. Coves (2011) Spectroscopic characterization of the metal-binding sites in the periplasmic metal-sensor domain of CnrX from *Cupriavidus metallidurans* CH34. *Biochemistry* **50**, 9036-9045. [\[PubMed\]](#)
- 225 - Z.H. Soomro, S. Cecioni, H. Blanchard, J.P. Praly, A. Imberty, S. Vidal & S.E. Matthews (2011) CuAAC synthesis of resorcin[4]arene-based glycoclusters as multivalent ligands of lectins. *Org. Biomol. Chem.* **9**, 6587-6597. [\[PubMed\]](#)
- 224 - T. Ierano, A. Nurisso, R. Lanzetta, M. Parrilli, A. Silipo, A. Imberty & A. Molinaro (2011) Molecular modelling study of the carbohydrate region of the endotoxin from *Burkholderia cenocepacia* ET-12. *Eur. J. Org. Chem.* **47**, 5114-5122. [\[PubMed\]](#)
- 223 - O. Sulák, G. Cioci, E. Lameignere, V. Balloy, A. Round, I. Gutsche, L. Malinovská, M. Chignard, P. Kosma, F. Aubert, C.L. Marolda, M.A. Valvano, M. Wimmerová\* & A. Imberty\* (2011) *Burkholderia cenocepacia* BC2L-C is a super lectin with dual specificity and proinflammatory activity. *PLoS Pathog.* **7**, e1002238. [\[PubMed\]](#) [\[hal-00619417\]](#)

222 - D. Sicard, S. Cecioni, M. Iazykov, Y. Chevolut, S.E. Matthews, J.-P. Praly, E. Souteyrand, A. Imberty, S. Vidal & M. Phaner-Goutorbe (2011) AFM investigation of *Pseudomonas aeruginosa* lectin LecA (PA-IL) filaments induced by multivalent glycoclusters. *Chem. Commun.* **47**, 9483-9485. [[PubMed](#)]

221 - N. Sapay, E. Cabannes, M. Petitou & A. Imberty\* (2011) Modeling of the interaction between heparan sulfate and cellular growth factors: bringing pieces together. *Glycobiology* **21**, 1181-1193. [[PubMed](#)]

220 - A. Imberty\* (2011) Bacterial lectins and adhesins: structures, ligands and functions *In "E-book : Synthesis and Biological Applications of Glycoconjugates"*, O. Renaudet & N. Spinelli (eds), Bentham Science Publishers Ltd, pp. 3-11

219 - A. Varrot, B. Blanchard & A. Imberty\* (2011) Lectin binding and its structural basis *In "Carbohydrate Recognition: Biological problems, methods, and applications"*, B. Wang & G.J. Boons (eds), John Wiley and Sons, Hoboken, NJ, pp. 329-347

218 - G. Cioci, A. Srivastava, D. Loganathan\*, S. Mason\*, S. Pérez\* & A. Imberty\* (2011) Low temperature neutron diffraction structures of N-glycoprotein linkage models and analogs: Structure refinement and trifurcated hydrogen bonds. *J. Amer. Chem. Soc.* **133**, 10042-10045. [[PubMed](#)]  
**(Selected in JACS Select #18 : The Chemistry-Glycobiology Frontier)**

217 - C. Laguri, N. Sapay, J.P. Simorre, B. Brutscher, A. Imberty, P. Gans & H. Lortat-Jacob (2011) <sup>13</sup>C-labeled heparan sulfate analogue as a tool to study protein/heparan sulfate interaction by NMR spectroscopy. Application to the CXCL12a chemokine. *J. Amer. Chem. Soc.* **133**, 9642-9645. [[PubMed](#)] **(Selected in JACS Select #18 : The Chemistry-Glycobiology Frontier)**

216 - N. Gilboa-Garber, K.D. Zinger-Yosovich, D. Sukadevitz, B. Lerrer, A. Imberty, M. Wimmerova, A.M. Wu & N.C. Garber (2011) The five bacterial lectins (PA-IL, PA-IIL, RSL, RS-IIL, and CV-IIL): Interactions with diverse animal cells and glycoproteins The five bacterial lectins (PA-IL, PA-IIL, RSL, RS-IIL, and CV-IIL): Interactions with diverse animal cells and glycoproteins. *Adv. Exp. Med. Biol.* **705**, 155-211. [[PubMed](#)]

215 - Y. M. Chabre, D. Giguère, B. Blanchard, J. Rodrigue, S. Rocheleau, M. Neault, S. Rauthu, A. Papadopoulos, A. A. Arnold, A. Imberty\* & R. Roy\* (2011) Combining glycomimetic and multivalent strategies toward designing potent bacterial lectin inhibitors. *Chemistry* **17**, 6545-6562. [[PubMed](#)]

214 - M.A. Morando, A. Nurisso, N. Grenouillat, B. Vauzeilles, J.M. Beau, F.J. Cañada, J. Jiménez-Barbero\* & A. Imberty\* (2011) NMR and molecular modelling reveal key structural features of synthetic nodulation factors. *Glycobiology* **21**, 824-833 [[PubMed](#)] [[hal-00603066](#)]

213 - M. Audry, C. Jeanneau, A. Imberty, A. Harduin-Lepers, P. Delannoy and C. Breton (2011) Current trends in the structure-activity relationships of sialyltransferases. *Glycobiology* **21**, 716-726 [[PubMed](#)]

212 - E. Loisel, S. Chimalapati, C. Bougault, A. Imberty, B. Gallet, A.M. Di Guilmi, J. Brown, T. Vernet & C. Durmor (2011). Biochemical characterization of the histidine triad protein PhtD as a cell surface zinc-binding protein of pneumococcus. *Biochemistry* **50**, 3551-3558. [[PubMed](#)]

211 - D. Klaus-Heisen, A. Nurisso, A. Pietraszewska-Bogiel, M. Mbengue, S. Camut, T. Timmers, C. Pichereaux, M. Rossignol, T. Gadella, A. Imberty, B. Lefebvre & Julie V. Cullimore (2011) Structure-function similarities between a plant receptor-like kinase and the human interleukin-1 receptor-associated kinase-4. *J. Biol. Chem* **286**, 11202-11210. [[PubMed](#)] [[hal-02645084](#)]

210 - S. Cecioni, V. Oerthel, J. Iehl, M. Holler, D. Goyard, J.P. Praly, A. Imberty\*, J.F. Nierengarten\* & S. Vidal\* (2011) Synthesis of dodecavalent fullerene-based glycoclusters and evaluation of their binding properties towards a bacterial lectin. *Chemistry* **17**, 3252-3261. [[PubMed](#)]

209 - S. Cecioni, S. Faure, U. Darbost, I. Bonnamour, H. Parrot-Lopez, O. Roy, C. Taillefumier, M.

Wimmerová, J.P. Praly, A. Imberty & S. Vidal (2011) Selectivity among lectins: Probing the effect of topology, multivalency and flexibility of "clicked" multivalent glycoclusters. *Chemistry* **17**, 2146-2159. [[PubMed](#)]

208 - H. Vedala, Y. Chen, S. Cecioni, A. Imberty, S. Vidal, A. Star (2011) Nanoelectronic detection of lectin-carbohydrate interactions using carbon nanotubes. *Nano Lett.* **11**, 170-175 [[PubMed](#)]

## 2010

207 - I. Otsuka, B. Blanchard, R. Borsali, A. Imberty\* & T. Kakuchi\* (2010) Enhancement of plant and bacterial lectin binding affinity by three-dimensional organized cluster glycosides constructed on helical poly(phenylacetylene) backbones. *ChemBioChem* **11**, 2399-2408 [[PubMed](#)]

206 - V. Gargiulo, M. A. Morando, A. Silipo, A. Nurisso, S. Pérez, A. Imberty, F. J. Cañada, M. Parrilli, J. Jiménez-Barbero & C. De Castro (2010) Insights on the conformational properties of hyaluronic acid by using NMR residual dipolar couplings and MD simulations. *Glycobiology* **20**, 1208-1216. [[PubMed](#)] [[hal-00524347](#)]

205 - S. Mathieu, K. Saboia Aragão, A. Imberty & A. Varrot (2010) Discoidin I from *Dictyostelium discoideum* and interactions with oligosaccharides: specificity, affinity, crystal structures and comparison with Discoidin II. *J. Mol. Biol.* **400**, 540-554. [[PubMed](#)]

204 - M. Andreini, M. Anderlüh, A. Audfray, A. Bernardi & A. Imberty\* (2010) Monovalent and bivalent N-fucosyl amides as high affinity ligands for *Pseudomonas aeruginosa* PA-III lectin. *Carbohydr. Res.* **345**, 1400-1407. [[PubMed](#)]

203 - A. Nurisso, B. Blanchard, A. Audfray, L. Rydner, S. Oscarson, A. Varrot & A. Imberty\* (2010) Role of water molecules in structure and energetics of *Pseudomonas aeruginosa* PA-III lectin interacting with disaccharides. *J. Biol. Chem.* **285**, 20316-20327. [[PubMed](#)]

202 - L. Jansson, J. Ångström, M. Lebens, A. Imberty, A. Varrot, S. Teneberg (2010) Carbohydrate binding specificities and crystal structure of the cholera toxin-like B-subunit from *Citrobacter freundii*. *Biochimie* **92**, 482-490. [[PubMed](#)]

201 - O. Sulák, G. Cioci, M. Delia, M. Lahmann, A. Varrot, A. Imberty\* & M. Wimmerová\* (2010) A TNF-like trimeric lectin domain from *Burkholderia cenocepacia* with specificity for fucosylated human histo-blood group antigens. *Structure* **18**, 59-72. [[PubMed](#)]

200 - E. Lameignere, T.C. Shiao, R. Roy, M. Wimmerová, F. Dubreuil, A. Varrot & A. Imberty\* (2010) Structural basis of the affinity for oligomannosides and analogs displayed by BC2L-A, a *Burkholderia cenocepacia* soluble lectin. *Glycobiology* **20**, 87-98. [[PubMed](#)] [[hal-00447116](#)]

## 2009

199 - S. Cecioni, R. Lalor, B. Blanchard, J.P. Praly, A. Imberty\*, S E. Matthews\* & S. Vidal\* (2009) Achieving high affinity towards a bacterial lectin through multivalent topological isomers of calix[4]arene glycoconjugates. *Chemistry* **15**, 13232-13240. [[PubMed](#)]

198 - O. Šulák, E. Lameignere, M. Wimmerová. & A. Imberty\* (2009) Specificity and affinity studies in lectin/carbohydrate interactions. *Carbohydr. Chem.* **35**, 356-371

197 - R. Carapito, A. Imberty, J.M. Jeltsch, S. C. Byrns, P.-H. Tam, T. L. Lowary, A. Varrot & V. Phalip (2009) Molecular basis of arabinobio-hydrolase activity in phytopathogenic fungi. Crystal structure and catalytic mechanism of *Fusarium graminearum* GH93 a-L-arabinanase. *J. Biol. Chem.* **284**, 12285-12296. [[PubMed](#)] [[hal-03408197](#)]

196 - C. Chemani, A. Imberty, S. de Bentzman, M. Pierre, M. Wimmerová, B. P. Guery & K. Faure (2009) Role of LecA and LecB lectins in *Pseudomonas aeruginosa* induced lung injury and effect of

carbohydrates ligands. *Infect. Immun.* **48**, 2684-2698. [[PubMed](#)]

195 - M. Thépaut, J. Valladeau, A. Nurisso, R. Kahn, B. Arnou, C. Vivès, S. Saeland, C. Ebel, C. Monnier, C. Dezutter-Dambuyant, A. Imberty & F. Fieschi (2009) Structural studies of langerin and Birbeck granule: A macromolecular organization model. *Biochemistry* **77**, 2065-2075. [[PubMed](#)]

194 - J. Rieger, H. Freichels, A. Imberty, J.L. Putaux, T. Delair, C. Jérôme & R. Auzély-Velty (2009) Polyester nanoparticles presenting mannose residues: toward the development of new vaccine delivery systems combining biodegradability and targeting properties. *Biomacromolecules* **10**, 651-657. [[PubMed](#)]

193 - T. A. Jackson, V. Robertson, A. Imberty & F.I. Auzanneau (2009) The flexibility of the LeaLex Tumor Associated Antigen central fragment studied by systematic and stochastic searches as well as dynamic simulations. *Bioorg. Med. Chem.* **17**, 1514-1526. [[PubMed](#)]

192 - M. Mohamed Naseer Ali, U. Aich, S. Pérez, A. Imberty\* & D. Loganathan\* (2009) Examination of the effect of structural variation on the N-glycosidic torsion PHIN among N-( $\beta$ -D-glycopyranosyl)acetamido and propionamido derivatives of monosaccharides based on crystallography and quantum chemical calculations. *Carbohydr. Res.* **344**, 355-361. [[PubMed](#)]

191 - S. Fasmer Hansen, E. Bettler, M. Wimmerová, A. Imberty, O. Lerouxel & C. Breton (2009) Combination of several bioinformatic approaches for the identification of new putative glycosyltransferases in *Arabidopsis*. *J. Proteome Res.* **8**, 743-753. [[PubMed](#)]

## 2008

190 - S.A. Osmani, S. Bak, A. Imberty, C.E. Olsen & B.L. Møller (2008) Catalytic key amino acids and UDP sugar donor specificity of a plant glucuronosyl transferase, UGT94B1. Molecular modeling substantiated by site-specific mutagenesis and biochemical analyses. *Plant Physiol.* **148**, 1295-1308. [[PubMed](#)]

189 - J. Cullimore, B. Lefebvre, J. F. Arrighi, C. Gough, A. Barre, J. J. Bono, P. Rougé, E. Samain, H. Driguez, A. Imberty, A. Untergasser, R. Geurts, T. W. J. Gadella, J. Cañada & J. Jimenez-Barbero (2008) Nod-Factor Perception in *Medicago truncatula*. In "*Biological Nitrogen Fixation: Towards Poverty Alleviation through Sustainable Agriculture*" F.D. Dakora, S.B.M. Chimphango, A.J. Valentine, C. Elmerich & W.E. Newton, W.E. Eds. Series "*Current Plant Science and Biotechnology in Agriculture*" Vol. 42, Springer Verlag Berlin, pp 167-171.

188 - J.P. Gourdine, G. Cioci, L. Miguët, C. Unverzagt, D. Varón-Silva, A. Varrot, C. Gautier, E. J. Smith-Ravin & A. Imberty (2008) High affinity interaction between bivalve C-type lectin and biantennary complex-type N-glycan revealed by crystallography and microcalorimetry. *J. Biol. Chem.* **283**, 30112-30120. [[PubMed](#)] [[hal-01700354](#)]

187 - B. Blanchard, A. Nurisso, E. Hollville, C. Tétaud, J. Wiels, M. Pokorná, M. Wimmerová, A. Varrot & A. Imberty (2008) Structural basis of the preferential binding for globo-series glycosphingolipids displayed by *Pseudomonas aeruginosa* lectin I (PA-IL) . *J. Mol. Biol.* **383**, 837-853. [[PubMed](#)]

186 - A. Imberty & A. Varrot (2008) Microbial recognition of human cell surface glycoconjugates. *Curr. Opin. Struct. Biol.* **18**, 567-576. [[PubMed](#)]

185 - A. Imberty, Y. M. Chabre & R. Roy (2008) Glycomimetics and glycodendrimers as high affinity microbial antiadhesins. *Chemistry* **14**, 7490-7499. [[PubMed](#)]

184 - K. Saboia Aragão, M. Satre, A. Imberty & A. Varrot (2008) Structure determination of Discoidin II from *Dictyostelium discoideum* and carbohydrate binding properties of the lectin domain. *Proteins* **76**, 43-52. [[PubMed](#)]

183 - A.V. Morant, N.Bjarnholt, M.E. Kragh, C.H. Kjærgaard, K. Jørgensen, S.M. Paquette, M. Piotrowski, A. Imberty, C.E. Olsen, B.L. Møller & S. Bak (2008) The  $\beta$ -glucosidases responsible for



bio-activation of hydroxynitrile glucosides in *Lotus japonicus*. *Plant Physiol.* **147**, 1072-1091. [\[PubMed\]](#)

182 - M. Mohamed Naseer Ali, U. Aich, B. Varghese, S. Pérez, A. Imberty & D. Loganathan (2008) On the conformational preferences of the aglycon moiety in the models and analogs of GlcNAc-Asn linkage: crystal structures and ab initio quantum chemical calculations of N-( $\beta$ -D-glycopyranosyl) haloacetamides. *J. Amer. Chem. Soc.* **130**, 8317-8325. [\[PubMed\]](#)

181 - A. Nurisso, S. Kozmon & A. Imberty (2008) Comparison of docking methods for  $\frac{1}{2}$  carbohydrate binding in calcium-dependent lectins and prediction of the carbohydrate binding mode to sea cucumber lectin CEL-III. *Mol. Simul.* **34**, 469-479. [\[hal-00515019\]](#)

180 - I.B.H. Wilson, C. Breton, A. Imberty & I. Tvaroška (2008) Molecular basis for the biosynthesis of oligo- and polysaccharides. In "*Glycoscience. 2nd ed. Chemistry and Chemical Biology*"; Fraser-Reid, B.O., Tatsuta, K., et al. Eds., Springer-Verlag Berlin Heidelberg. 2265-2323

179 - N. K. Mishra, P. Kulháček, L. Šnajdrová, M. Petrek, A. Imberty & J. Koča (2008) Molecular dynamics study of *Pseudomonas aeruginosa* lectin-II complexed with monosaccharides. *Proteins* **72**, 382-392. [\[PubMed\]](#)

178 - A. Fernandes, M. Dell'Olmo, A. Tatibouët, A. Imberty, C. Philouze & P. Rollin (2008) Dramatic effect of PSE clamping on the behaviour of D-glucal under Ferrier I conditions. *Tetrahedr. Lett.* **49**, 3484-3488.

177 - E. Lameignere, L. Malinová, M. Šliškovič, E. Duchaud, E.P. Mitchell, A. Varrot, O. Šedo, A. Imberty & M. Wimmerová (2008) Structural basis for mannose recognition by a lectin from opportunistic bacteria *Burkholderia cenocepacia*. *Biochem. J.* **81**, 12846-12858. [\[PubMed\]](#) [\[hal-00479454\]](#)

## 2007

176 - M.A. Campanero-Rhodes, A. Smith, W. Chai, S. Sonnino, L. Mauri, R.A Childs, Y. Zhang, H. Ewers, A. Helenius, A. Imberty & T. Feizi (2007) N-glycolyl GM1 ganglioside as a receptor for Simian virus 40 (SV40). *J. Virol.* **411**, 307-318. [\[PubMed\]](#)

175 - C. Poncet-Legrand, C. Gautier, V. Cheyrier & A. Imberty (2007) Structural Interactions between flavan-3-ols and poly(L-proline) studied by Isothermal Titration Calorimetry : effect of the tannin structure. *J. Agric. Food. Chem.* **55**, 9235-9240. [\[PubMed\]](#)

174 - J. Lescar, J.F. Sanchez, A. Audfray, J.L. Coll, C. Breton, E.P. Mitchell & A. Imberty (2007) Structural basis for recognition of breast and colon cancer epitopes Tn antigen and Forssman disaccharide by *Helix pomatia* lectin. *Glycobiology* **17**, 1077-1083. [\[PubMed\]](#) [\[inserm-00176673\]](#)

173 - S. Meyer, B. Tefsen, A. Imberty, R. Geyer & I. van Die (2007) The C-type lectin L-SIGN differentially recognizes glycan antigens on egg glycosphingolipids and soluble egg glycoproteins from *Schistosoma mansoni*. *Glycobiology* **17**, 1104-1119. [\[PubMed\]](#)

172 - F. Morvan, A. Meyer, A. Jochum, C. Sabin, Y. Chevotot, A. Imberty, J.P. Praly, J.J. Vasseur, E. Souteyrand & S. Vidal (2007) Fucosylated pentaerythryl phosphodiester oligomers (PePOs): Automated synthesis of DNA-based glycoclusters and binding to *Pseudomonas aeruginosa* lectin (PA-III). *Bioconjug. Chem.* **18**, 1637-1643. [\[PubMed\]](#)

171 - K. Marotte, C. Prévile, C. Sabin, M. Moumé-Pymbock, A. Imberty & R. Roy (2007) Synthesis and binding properties of divalent and trivalent clusters of the Lewis a disaccharide moiety to *Pseudomonas aeruginosa* lectin PA-III. *Org. Biomol. Chem.* **5**, 2953-2961. [\[PubMed\]](#)

170 - J. Rieger, F. Stoffelbach, D. Cui, A. Imberty, E. Lameignere, J.L. Putaux, R. Jérôme, C. Jérôme & R. Auzély-Velty (2007) Mannosylated poly(ethylene oxide)-b-poly( $\epsilon$ -caprolactone) diblock copolymers: synthesis, characterization, and interaction with a bacterial lectin. *Biomacromolecules* **8**, 2717-2725. [\[PubMed\]](#)

- 169 - K. Marotte, C. Sabin, C. Prévile, M. Moumé-Pymbock, M. Wimmerová, E.P. Mitchell, A. Imberty & R. Roy (2007) X-ray structures and thermodynamic of interaction of PA-IIL from *Pseudomonas aeruginosa* with disaccharide derivatives. *ChemMedChem* **2**, 1328-1338.[[PubMed](#)]
- 168 - A. Garcia-Pino, L. Buts, L. Wyns, A. Imberty & R. Loris (2007) How a plant lectin recognizes high mannose oligosaccharides. *Plant Physiol.* **144**, 1734-1741.[[PubMed](#)]
- 167 - C. Pascal, C. Poncet-Legrand, A. Imberty, C. Gautier, P. Sarni-Manchado & A. Vernhet (2007) Interactions between a non-glycosylated human proline-rich protein and flavan-3-ols are affected by protein concentration and polyphenol/protein ratio. *J. Agric. Food Chem.* **55**, 4895-4901.[[PubMed](#)]
- 166 - J. Adam, M. Pokorná, C. Sabin, E. P. Mitchell, A. Imberty & M. Wimmerová (2007) Engineering of PA-IIL lectin from *Pseudomonas aeruginosa* - Unravelling the role of the specificity loop for sugar preference. *BMC Struct. Biol.* **7**, 36.[[PubMed](#)] [[hal-00305571](#)]
- 165 - U. Krengel & A. Imberty (2007) Crystallography and lectin structure database. In "*Lectins: Analytical Technologies*"; C. Nilsson (ed) Elsevier NY, 15-50.
- 164 - A. Imberty, H. Lortat-Jacob & S. Pérez (2007) Structural view of glycosaminoglycan-protein interactions. *Carbohydr. Res.* **342**, 430-439.[[PubMed](#)]
- 163 - V. Blanchard, F. Chevalier, A. Imberty, B.R. Leeflang, K. Sugahara & J.P. Kamerling (2007) Conformational studies on five octasaccharides isolated from chondroitin sulphate using NMR spectroscopy and molecular modeling. *Biochemistry***46**, 1167-1175.[[PubMed](#)]

## 2006

- 162 - A. Imberty & S. Pérez (2006) Molecular modeling of glycosaminoglycans and interactions with protein receptors – Methods and progress. In "*New Developments in Therapeutic Glycomics*" M. Delehedde & H. Lortat-Jacob (eds), Research Signpost, Trivandrum India, 2006, pp. 185-201.
- 161 - H. Heissigerova, P. Kočalka P., M. Hlavackova, A. Imberty, C. Breton, V. Chazalet & J. Moravcova (2006) Synthesis of D-galactopyranosylphosphonic and (D-galactopyranosymethyl)phosphonic acids as intermedicates of inhibitors of galactosyltransferases. *Coll. Czech. Chem. Commun.* **71**, 1659-1672.
- 160 - H. Perez Sanchez, K. Tatarenko, M. Nigen, G. Pavlov, A. Imberty, H. Lortat-Jacob, J. Garcia de la Torre & C. Ebel (2006) Organization of human interferon gamma -heparin complexes from solution properties and hydrodynamics. *Biochemistry* **45**, 13227-13238.[[PubMed](#)]
- 159 - L. Mulder, B. Lefebvre, J. Cullimore & A. Imberty (2006) LysM domains of *Medicago truncatula* NFP protein involved in Nod factor perception. Glycosylation state, molecular modeling and docking of chitooligosaccharides and Nod factors. *Glycobiology* **16**, 801-809.[[PubMed](#)]
- 158 - A. Imberty, M. Wimmerová, J. Koča & C. Breton (2006) Molecular modelling of glycosyltransferases. In "*Glycobiology Protocols*" Brokhausen-Schutzbach, I. (ed), Series "*Methods in Molecular Biology*", The Humana Press Inc., Totowa NJ, 2006, pp. 145-156.[[PubMed](#)]
- 157 - J.F. Sanchez, J. Lescar, V. Chazalet, A. Audfray, J. Gagnon, R. Alvarez, C. Breton, A. Imberty & E.P. Mitchell (2006) Biochemical and structural analysis of *Helix pomatia* agglutinin (HPA): a hexameric lectin with a novel fold. *J. Biol. Chem.* **281**, 20171-20180.[[PubMed](#)] [[hal-00141232](#)]
- 156 - A. Imberty, M. Wimmerová, C. Sabin & E. Mitchell (2006) Structures and roles of *Pseudomonas aeruginosa* lectins. In "*Protein-Carbohydrate Interactions in Infectious Disease*" C.A. Bewley, (ed) The Royal Society of Chemistry, Cambridge, pp. 30-48.
- 155 - M. Pokorná, G. Cioci, S. Perret, E. Rebuffet, N. Kostlánová, J. Adam, N. Gilboa-Garber, E.P. Mitchell, A. Imberty & M. Wimmerová (2006) Unusual entropy driven affinity of *Chromobacterium*

*violaceum* lectin CV-III towards fucose and mannose. *Biochemistry* **45**, 7501-7510. [\[PubMed\]](#)

154 - L. Buts, A. Garcia-Pino, A. Imberty, N. Amiot, G.J. Boons, S. Beeckmans, W. Versées, L. Wyns, R. Loris (2006) Structural basis for the recognition of complex-type biantennary oligosaccharides by *Pterocarpus angolensis* lectin. *FEBS J.* **273**, 2407-2420. [\[PubMed\]](#)

153 - G. Cioci, E.P. Mitchell, V. Chazalet, H. Debray, S. Oscarson, M. Lahmann, C. Gautier, C. Breton, S. Pérez, A. Imberty (2006)  $\beta$ -Propeller crystal structure of *Psathyrella velutina* lectin: An integrin-like fungal protein interacting with monosaccharides and calcium. *J. Mol. Biol.* **357**, 1575-1591. [\[PubMed\]](#)

152 - C. Sabin, E.P. Mitchell, M. Pokorná, C. Gautier, J.P. Utille, M. Wimmerová & A. Imberty (2006) Binding of different monosaccharides by lectin PA-III from *Pseudomonas aeruginosa*: Thermodynamics data correlated with X-ray structures. *FEBS Lett.* **580**, 982-987. [\[PubMed\]](#)

151 - M.J. Clément, A. Fortuné, A. Phalipon, V. Marcel-Peyre, C. Simenel, A. Imberty, M. Delepierre & L.A. Mulard (2006) Towards a better understanding of the basis of molecular mimicry of polysaccharide antigens by peptides: the example of *Shigella flexneri* 5A. *J. Biol. Chem.* **281**, 2317-2332. [\[PubMed\]](#) [\[pasteur-01115171\]](#)

150 - C. Breton, L. Snajdrová, C. Jeanneau, J. Koča & A. Imberty (2006) Structures and mechanisms of glycosyltransferases. *Glycobiology* **16**, 29R-37R. [\[PubMed\]](#)

149 - K. Zinger-Yosovich, D. Sudakevitz, A. Imberty, N.C. Garber & N. Gilboa-Garber (2006) Production and properties of the native *Chromobacterium violaceum* fucose-binding lectin (CV-III) compared to homologous lectins of *Pseudomonas aeruginosa* (PA-III) and *Ralstonia solanacearum* (RS-III). *Microbiology* **152**, 457-463. [\[PubMed\]](#)

## 2005

148 - S. Meyer, E. van Liempt, A. Imberty, Y. van Kooyk, H. Geyer, R. Geyer & I. van Die (2005) DC-SIGN mediates binding of dendritic cells to authentic pseudo-Lewis Y glycolipids of *Schistosoma mansoni* cercariae: the first parasite-specific ligand of DC-SIGN. *J. Biol. Chem.* **280**, 37349-37359. [\[PubMed\]](#)

147 - K. S. Thorsoe, S. Bak, C. E. Olsen, A. Imberty, C. Breton & B. L. Moller (2005) Determination of catalytic key amino acids and UDP-sugar donor specificity of the cyanohydrin glycosyltransferase UGT85B1 from *Sorghum bicolor*: molecular modeling substantiated by site specific mutagenesis and biochemical analyses. *Plant Physiol.* **139**, 664-673. [\[PubMed\]](#)

146 - A. Imberty, E.P. Mitchell & M. Wimmerová (2005) Structural basis for high affinity glycan recognition by bacterial and fungal lectins. *Curr. Opin. Struct. Biol.* **15**, 525-534. [\[PubMed\]](#)

145 - C. Botté, C. Jeanneau, L. Snajdrová, O. Bastien, A. Imberty, C. Breton & E. Maréchal (2005) Molecular modelling and site directed mutagenesis of plant chloroplast MGDG synthase reveal critical residues for activity. *J. Biol. Chem.* **280**, 34691-34701. [\[PubMed\]](#) [\[hal-00015709\]](#)

144 - E.Y. Korchagina, T.V. Pochechueva, P.S. Obukhova, A.A. Formanovsky, A. Imberty, R. Rieben & N.V. Bovin (2005) Design of the blood group AB glycotope. *Glycoconj. J.* **22**, 127-133. [\[PubMed\]](#)

143 - N. Kostlanová, E.P. Mitchell, H. Lortat-Jacob, S. Oscarson, M. Lahmann, N. Gilboa-Garber, G. Chambat, M. Wimmerová, A. Imberty (2005) The fucose-binding lectin from *Ralstonia solanacearum*: A new type of  $\beta$ -propeller architecture formed by oligomerisation and interacting with fucoside, fucosyllactose and plant xyloglucan. *J. Biol. Chem.* **280**, 27839-27849. [\[PubMed\]](#) [\[hal-01062648\]](#)

142 - S. Perret, C. Sabin, C. Dumon, M. Pokorná, C. Gautier, O. Galanina, S. Ilia, N. Bovin, M. Nicaise, M. Desmadril, N. Gilboa-Garber, M. Wimmerová, E.P. Mitchell & A. Imberty (2005) Structural basis for the interaction between human milk oligosaccharides and the bacterial lectin PA-III of *Pseudomonas aeruginosa*. *Biochem. J.* **389**, 325-332. [\[PubMed\]](#)

141 - R. Vivès, A. Imberty, Q. J. Sattentau & H. Lortat-Jacob (2005) Heparan sulphate targets the HIV-A envelope glycoprotein gp120 coreceptor binding site. *J. Biol. Chem.* **22**, 21353-21357. [[PubMed](#)]

140 - P. Groves, S. Offermann, M. O.Rasmussen, B. Hogg, F. J. Cañada, J.-J. Bono, H. Driguez, A. Imberty & J. Jiménez-Barbero (2005) The relative orientation of the lipid and carbohydrate moieties of lipochitooligosaccharides related to nodulation factors depends on lipid chain saturation. *Org. Biomol. Chem.* **3**, 1381-1386. [[PubMed](#)]

139 - E.P. Mitchell, C. Sabin, L. Snajdrova, M Budova, S. Perret, C. Gautier, C. Hofr, N. Gilboa-Garber, J. Koča, M Wimmerová & A. Imberty (2005) High affinity fucose binding of *Pseudomonas aeruginosa* lectin PA-III: 1.0 Å resolution crystal structure of the complex combined with thermodynamics and computational chemistry approaches *Proteins: Struct. Funct. Bioinfo.* **58**, 735-746. [[PubMed](#)]

## 2004

138 - M.T. Navarro-Gochicoa, B. Hogg, J.J. Bono, A. Imberty & J.V. Cullimore (2004) Lectin apyrases and lectin-receptor kinases : proteins potentially playing a role in the legume-rhizobia symbiosis *In "Biology of Plant-Microbe Interactions"*, Vol. 4 B. Lugtenberg, I. Tikhonovich & N. Provorov (eds), APS Pres, Saint-Paul MN.

137 - A. Rencurosi, E.P. Mitchell, G. Cioci, S. Pérez, R. Pereda-Miranda & A. Imberty (2004) Crystal structure of tricolorin A: molecular rationale for the biological properties of resin glycosides found in some mexican herbal remedies. *Angew. Chemie Int. Ed.* **43**, 5918-5922. [[PubMed](#)]

136 - G. Cioci, N. Leconte , A. Tatiboua, P. Rollin, S. Pérez & A. Imberty (2004) (4R,9S)-4-Hydroxymethyl-3,8-dioxo-1,6-diazaspiro[4.4]nonane -2,7-dithione monohydrate. *Acta Cryst.* **E60**, 2399-2401 [[Abstract](#)]

135 - R. Sadir, A. Imberty, F. Baleux, H. Lortat-Jacob (2004) Heparan sulfate/heparin oligosaccharides protect stromal cell-derived factor-1 (SDF-1)/CXCL12 against proteolysis induced by CD26/dipeptidyl peptidase IV. *J. Biol. Chem.* **279**, 43854-43860. [[PubMed](#)] [[pasteur-001668](#)] 51

134 - E. van Liempt, A. Imberty, C.M.C. Bank, S.J. van Vliet, Y. van Kooyk, T.B.H. Geijtenbeek & I. van Die (2004) Molecular basis of the differences in binding properties of the highly related C-type lectins DC-SIGN and L- SIGN to Lewis x trisaccharide and *Schistosoma mansoni* egg antigens. *J. Biol. Chem.* **279**, 33161-33167. [[PubMed](#)]

133 - K. Lycknert, M. Edblad, A. Imberty & G. Widmalm (2004) NMR and molecular modeling studies of the interaction between wheat germ agglutinin and the  $\beta$ -D-FGlcNAc-(1 $\rightarrow$ 6)- $\alpha$ -D-Manp epitope present in glycoproteins of tumor cells. *Biochemistry* **43**, 9647-9654. [[PubMed](#)]

132 - D. Sudakevitz, N. Kostlanova, G. Blatman-Jan, E.P. Mitchell, B. Lerrer, M. Wimmerová, D.J. Katcoff, A. Imberty & N. Gilboa-Garber (2004) A new *Ralstonia solanacearum* high affinity mannose-binding lectin RS-III structurally resembling the *Pseudomonas aeruginosa* fucose-specific lectin PA-III. *Mol. Microbiol.* **52**, 691-700. [[PubMed](#)]

131 - C. Jeanneau, V. Chazalet, C. Augé, M. Soumpasis, A. Harduin-Lepers, P. Delannoy, A. Imberty & C. Breton (2004) Structure function analysis of ST3Gal I: Role of N-glycosylation and a novel conserved sialylmotif. *J. Biol. Chem.* **279**, 13461-13468. [[PubMed](#)] [[hal-00086299](#)]

130 - L. Snajdrová, P. Kulhánek, A. Imberty & J. Koča (2004) Molecular dynamics simulations of glycosyltransferase LgtC. *Carbohydr. Res.* **339**, 995-1006. [[PubMed](#)]

129 - T.V. Pochechueva, O.E. Galanina, N.A. Ushakova, M.E. Preobrazhenskaya, Ya.V. Vozney, A. Imberty & N.V. Bovin (2004) Uncharged P-selectin blockers. *Glycoconj. J.* **20**, 91-97. [[PubMed](#)]

128 - A. Imberty, M. Wimmerová, E.P. Mitchell & N. Gilboa-Garber (2004) Structures of the lectins from *Pseudomonas aeruginosa*: Insights into molecular basis for host glycan recognition. *Microb.*

*Infect.***6**, 222-229. [[PubMed](#)]

127 - S. Ricard-Blum, O. Feraud, H. Lortat-Jacob, A. Rencurosi, N. Fukai, F. Dkhissi, D. Vittet, A. Imberty, B.R. Olsen, M. Van Der Rest (2004) Characterization of endostatin binding to heparin and heparan sulfate by surface plasmon resonance and molecular modeling. Role of divalent cations. *J. Biol. Chem.* **279**, 2927-2936. [[PubMed](#)] [[hal-01061436](#)]

## 2003

126 - M.-T. Navarro-Gochicoa, S. Camut, A.C.J. Timmers, A. Niebel, C. Hervé, J.J. Bono, A. Imberty & J.V. Cullimore (2003) Characterization of four lectin-like receptor kinases expressed in roots of *Medicago truncatula*: Structure, location, regulation of expression, and potential role in the symbiosis with *Sinorhizobium meliloti*. *Plant Physiol.***133**, 1893-1910. [[PubMed](#)] [[hal-02675647](#)]

125 - M.C. Galan, A.P. Venot, J. Glushka, A. Imberty & G.J. Boons(2003) Chemo-enzymatic synthesis of conformationally constrained oligosaccharides . *Org. Biomol. Chem.* **1**, 3891-3899. [[PubMed](#)]

124 - G. Cioci, E.P. Mitchell, C. Gautier, M. Wimmerová, D. Sudakevitz, S. Pérez, N. gilboa-Garber, A. Imberty (2003) Structural basis of calcium and galactose recognition by the lectin PA-IL of *Pseudomonas aeruginosa* . *FEBS Lett.*, **555**, 297-301. [[PubMed](#)]

123 - M.-J. Clément, A. Imberty, A. Phalipon, S. Pé;rez, C. Simenel, L.A. Mulard, & M. Delepierre (2003) Conformational studies of the O-specific polysaccharide of *Shigella flexneri*5a and of four related synthetic pentasaccharide fragments using NMR and molecular modeling. *J. Biol. Chem.* **48**, 47928-47936. [[PubMed](#)] [[pasteur-00369608](#)]

122 - J. Moravcova, H. Heissigerova, P. Kočalka, A. Imberty & M. Fris (2003) A novel seven-membered carbohydrate phostone. *Tetrahedron Lett.* **44**, 8797-8800

121 - A. Imberty, C. Breton, R. Oriol, R. Mollicone & S. Pérez (2003) Biosynthesis, structure and conformation of blood group carbohydrate antigens. *Adv. Macromol. Carbohydr. Res.* **2**, 67-130.

120 - M. Wimmerová, S.B. Engelsen, E. Bettler, C. Breton & A. Imberty (2003) Combining fold recognition and exploratory data analysis for searching for glycosyltransferases in the genome of *Mycobacterium tuberculosis*. *Biochimie* **85**, 691-700. [[PubMed](#)]

119 - Z. Kriz, J. Koča, A. Imberty, A. Charlot, R. Auzély-Velty (2003) Investigation of the complexation of (+)-catechin by  $\beta$ -cyclodextrin by combination of NMR, microcalorimetry and molecular modeling techniques. *Org. Biomol. Chem.* **1**, 2590-2595. [[PubMed](#)]

118 - M. Wimmerová, E. Mitchell, J.F. Sanchez, C. Gautier & A. Imberty (2003) Crystal structure of fungal lectin: Six-bladed beta-propeller fold and novel recognition mode for *Aleuria aurantia* lectin. *J. Biol. Chem.* **278**, 27059-27067. [[PubMed](#)]

117 - M. Jambon, A. Imberty, G. Deléage & C. Geourjon (2003) A new bioinformatic approach to detect common 3D sites in protein structures. *Proteins Struc.\_Funct. Genet.* **52**, 137-145. [[PubMed](#)]

116 - R. Loris, A. Imberty, S. Beeckmans, E. Van Driessche, J.S. Read, J. Bouckaert, H. De Greve, L. Buts & L. Wyns (2003) Crystal structure of *Pterocarpus angolensis* lectin in complex with glucose, sucrose, and turanose. *J. Biol. Chem.* **278**, 16297-16303. [[PubMed](#)]

115 - M.A. Rodriguez-Carvajal, A. Imberty & S. Pérez (2003) Conformational behaviour of chondroitin and chondroitin sulphate in relation to its physical properties as inferred by molecular modeling. *Biopolymers* **69**, 15-28. [[PubMed](#)]

114 - H. Heissigerova, C. Breton, J. Moravcova & A.Imberty (2003) Molecular modeling of glycosyltransferases involved in the biosynthesis of blood group A, blood group B, Forssman and iGb3 antigens and their interaction with substrates. *Glycobiology* **13**, 377-386. [[PubMed](#)]

113 - E. Bettler, A. Imberty, B. Priem, V. Chazalet, A. Heyraud, D.H. Joziase & R. A. G r mia (2003) Production of recombinant xenotransplantation antigen in *Escherichia coli*. *Biochem. Biophys. Res. Com.* **302**, 620-624. [[PubMed](#)]

## 2002

112 - R.R. Viv s, R. Sadir, A. Imberty, A. Rencurosi & H. Lortat-Jacob (2002) Kinetics and modeling study of RANTES (9-68) binding to heparin reveals a mechanism of cooperative oligomerisation. *Biochemistry* **41**, 14779-14889. [[PubMed](#)]

111 - E. Mitchell, C. Houles, D. Sudakevitz, M. Wimmerov , C. Gautier, S. P rez, A.M. Wu, N. Gilboa-Garber & A. Imberty (2002) Structural basis for oligosaccharide-mediated adhesion of *Pseudomonas aeruginosa* in the lungs of cystic fibrosis patients. *Nature Struct. Biol.* **9**, 918-921. [[PubMed](#)]

110 - C. Breton, H. Heissigerova, C. Jeanneau, J. Moravcova & A. Imberty (2002) Comparative aspects of glycosyltransferases. In *Glycogenomics: the impact of genomics and informatics in Glycobiology* Biochem. Soc. Symp. 69 (K. Drickamer & A. Dell, eds) Portland Press, London, 23-32. [[PubMed](#)]

109 - A. Rencurosi, J. R hrling, J. Pauli, A. Potthast, C. J nger, S. P rez, P. Kosma & A. Imberty (2002) Polymorphism in crystal structure of a cellulose fragment analogue :methyl 4-O-methyl-beta-D-glucopyranosyl-(1-4)-beta-D-glucopyranoside. *Angew. Chemie Int. Ed.* **41**, 4277-428. [[PubMed](#)]

108 - D. Sudakevitz, A. Imberty & N. Gilboa-Garber (2002) Production, properties and specificity of a new bacterial L-fucose- and D-arabinose-binding lectin of the plant aggressive pathogen *Ralstonia solanacearum* and its comparison to related plant and microbial lectin. *J. Biochem.* **132**, 353-358. [[PubMed](#)]

107 - L.A. Mulard, M.J. Cl ment, A. Imberty & M. Delepierre. (2002) Convergent synthesis, NMR and conformational analysis of tetra- and pentasaccharide haptens of the Shigella flexneri serotype 5a O-specific polysaccharide. *Eur. J. Org. Chem.* **2002**, 2486-2498.

106 - R. Mache, A. Cottet, A. Imberty, A.M. Hakimi & S. Lerbs-Mache (2002) The plant sigma factors: structure and phylogenetic origin. *Genome Lett.* **1**, 71-76.

105 - F. Corzana, E. Bettler, C. Herv  du Penhoat, T.V. Tyrtys, N.V. Bovin & A. Imberty (2002) Solution structure of two xeno-antigens: alphaGal-LacNAc and alphaGal-Lewis X. *Glycobiology* **12**, 241-250. [[PubMed](#)]

104 - M.C. Galan, A.P. Venot, J. Glushka, A. Imberty & G.J. Boons (2002) alpha-(2-6)-Sialyltransferase catalyzed sialylations of conformationally constrained saccharides. *J. Amer. Chem. Soc.* **124**, 5964-5973. [[PubMed](#)]

103 - J. Lescar, R. Loris, E. Mitchell, C. Gautier, V. Chazalet, V. Cox, L. Wyns, S. P rez, C. Breton & A. Imberty (2002) Isolectins I-A and I-B of *Griffonia (Bandeiraea) simplicifolia*: Crystal structure of metal-free GS I-B<sub>4</sub> and molecular basis for metal binding and monosaccharide specificity. *J. Biol. Chem.* **277**, 6608-6614. [[PubMed](#)]

102 - Y.D. Lobsanov, F. Vall e, P. Yip, T. Yoshida, A. Imberty, A. Herscovics & P.L Howell. (2002) Structure of *P. citrinum* alpha;1,2-mannosidase reveals the basis for differences in specificity of the ER and Golgi class I enzymes. *J. Biol. Chem.* **277**, 5620-5630. [[PubMed](#)]

101 - H. Lortat-Jacob, A. Grosdidier & A. Imberty (2002) Structural diversity of heparan sulfate binding domains in chemokines. *Proc. Nat. Acad. Sci. USA* **99**, 1229-1234. [[PubMed](#)] [[hal-01053367](#)]

## 2001

100 - P. Petrová, J. Koča & A. Imberty (2001) Molecular dynamics simulations of solvated UDP-glucose in interaction with Mg<sup>2+</sup> cations. *Eur. J. Biochem.* **268**, 5365-5374. [[PubMed](#)]

99 - R.I.W. Osmond, M. Hrmova, F. Fontaine, A. Imberty & G.B. Fincher (2001) Binding interactions between barley thaumatin-like proteins and (1,3)- $\beta$ -D-glucans: Kinetics, specificity, structural analysis and biological implications. *Eur. J. Biochem.* **268**, 4190-4199. [[PubMed](#)]

98 - P. Petrová, C. Monteiro, C. Hervé du Penhoat, J. Koča & A. Imberty (2001) Conformational behavior of nucleotide-sugar in solution: Molecular dynamics and NMR study of solvated UDP-glucose in the presence of monovalent cations. *Biopolymers* **58**, 617-635. [[PubMed](#)]

97 - R. Sadir, F. Baleux, A. Grosdidier, A. Imberty & H. Lortat-Jacob (2001) Characterization of the stromal cell-derived factor-1 and heparin complex. *J. Biol. Chem.* **276**, 8288-9296. [[PubMed](#)] [[pasteur-00166877](#)]

96 - M. Petitou, A. Imberty, P. Duchaussoy, P.A. Driguez, I. Lederman, F. gouvernec, J.M. Strassel, P. Sizun, S. Pérez & J.M. Herbert (2001) Experimental proof for the structure of a thrombin-inhibiting heparin molecule. *Chemistry* **7**, 858-873. [[PubMed](#)]

## 2000

95 - A. Imberty & S. Pérez (2000) Structure, conformation and dynamics of bioactive oligosaccharides: Theoretical approaches and experimental validations. *Chem. Rev.* **100**, 4567-4588. [[PubMed](#)]

94 - G.M. Bradbrook, K. Gessler, G.L. Côté, F. Momany, P. Biely, P. Bordet, S. Pérez, A. Imberty (2000) X-ray structure determination and modeling of the cyclic tetrasaccharide cyclo{-(6)- $\alpha$ -D-Glcp-(1-3)- $\alpha$ -D-Glcp-(1-6)- $\alpha$ -D-Glcp-(1-3)- $\alpha$ -D-Glcp-(1-)}. *Carbohydr. Res.* **329**, 655-665. [[PubMed](#)]

93 - P. Petrová, J. Koča & A. Imberty (2000) Effect of cation concentration on molecular dynamics simulations of UDP-glucose. *Molecul. Simul.* **24**, 325-340.

92 - J. Koča, M. Ludin, S. Pérez & A. Imberty (2000) single-coordinate-driving method in molecular docking. Application to modeling of guest inclusion in cyclodextrin. *J. Mol. Graph. Model.* **18**, 108 - 118. [[PubMed](#)]

91 - R. Loris, H. De Grève, M.-H. Dao-Thi, J. Messens, A. Imberty & I. Wyns (2000) Structural basis of carbohydrate recognition by lectin il from *Ulex europaeus*, a protein with a promiscuous carbohydrate binding site. *J. Mol. Biol.* **301**, 987-1002. [[PubMed](#)]

90 - S. Pérez, C. Gautier & A. Imberty (2000) Oligosaccharide conformations by diffraction methods. In *Oligosaccharides in Chemistry and Biology : A Comprehensive handbook* (B. Ernst, G. Hart, P. Sinay, eds.) Wiley/VCH, Weinheim, pp. 969-1001.

89bis - A. Imberty, Book review of *Conformation of Carbohydrates* by V.S.R. Rao, P.K. Qasba, P.V. Balaji & R. Chandrasekaran. *Chemistry in Britain.* **Vol 35**, p 37.

89.- A. Imberty, C. Gautier, J. Lescar, S. Pérez, L. Wyns & R. Loris (2000) An unusual carbohydrate binding site revealed by the structures of two *Maackia amurensis* lectins complexed with sialic-acid containing oligosaccharides. *J. Biol. Chem.* **275**, 17541-17548. [[PubMed](#)]

88 - A. Imberty & S. Pérez (2000) Aspects structuraux et thermodynamiques des interactions protéines-glucides. *les Ecoles Physiques et Chimie du Vivant*, **2**, 57-64

87 - C. Picard, J. Gruza, C. Derouet, C. Renard, K. Mazeau, J. Koča, A. Imberty & C. Hervé du Penhoat (2000) A conformational study of the xyloglucan oligomer, XXXG, by NMR spectroscopy and molecular modeling. *Biopolymers* **54**, 11-26. [[PubMed](#)]

## 1999

86 - A.A. Chinarev, A.B. Alexander, A.S. Gambaryan, M.N. Matrosovich, A. Imberty & N. Bovin (2000) Tetravalent blockers for influenza virus hemagglutinin. In *Sialobiology and Other Novel Forms of Glycosylation* (Y. Inoue, Y.C. Lee & F.A. Troy II, eds) Gakushin Publishing Co, Osaka, pp 135-143.

85 - L. Gonzalez, M. Bernabe, J.F. Espinosa, P. Tejero-Mateo, A. Gil-Serrano, N. Mantegazza, A. Imberty, H. Driguez & J. Jimenez-Barbero (1999) Solvent dependent conformational behaviour of lipochitooligosaccharides related to NOD factors. *Carbohydr.Res.* **318**, 10-19. [[PubMed](#)]

84 - P.H. Buist, B. Behrouzian, K.D. MacIsaac, S. Cassel, P. Rollin, A. Imberty, C. Gautier, S. Pérez & P. Genix (1999) Stereochemical analysis of D-glucopyranosyl-sulfoxides via a combined NMR, molecular modeling and x-ray crystallographic approach. *Tetrahedron Assym.* **10**, 2881-2889.

83 - S. Moréra, A. Imberty, U. Aschke-Sonnenbron, W. Rüger & P.S. Freemont (1999) T4 phage  $\beta$ -glucosyltransferase: substrate binding and proposed catalytic mechanism.. *J. Mol. Biol.* **292**, 717-730. [[PubMed](#)]

82bis - A. Imberty & K. Drickamer. Carbohydrates and Glycoconjugates. Editorial overview. *Curr. Opin. Struct. Biol.* **9** (5) 547-548, 1999

82 - C. Breton & A. Imberty (1999) Structure-function studies of glycosyltransferases. *Curr. Opin. Struct. Biol.* **9**, 563-571. [[PubMed](#)]

81 - A. Imberty, E. Bettler, M. Karababa, K. Mazeau, P. Petrova & S. Pérez (1999) Building sugars: The sweet part of structural biology. in "*Perspectives in Structural Biology*" (M. Vijayan, N. Yathindra & A.S. Kolaskar, eds) Indian Academy of Sciences and Universities Press, Hyderabad, pp 392-409.

80 - E. Bettler, E. Samain, V. Chazalet, C. Bosso, A. Heyraud, D.H. Joziassse, W.W. Wakarchuk, A. Imberty & R.A. G er mia (1999) The living factory : in vivo production of N-acetyllactosamine containing carbohydrates in *E. coli*. *Glycoconj. J.* **16**, 205-212. [[PubMed](#)]

79 - N. Navarre, N. Amiot, A. van Oijen, A. Imberty, A. Poveda, J. Jimenez-Barbero, A. Cooper, M.A. Nutley & G.J. Boons (1999) Synthesis and conformational analysis of a conformationally constrained trisaccharide and complexation properties with Concanavalin A. *Chemistry* **5**, 2281-2294.

78 - P. Petrova, J. Ko a & A. Imberty (1999) Potential energy hypersurfaces of nucleotide-sugars : Ab initio calculations, force-field parametrization, and exploration of the flexibility. *J. Am. Chem. Soc.* **121**, 5535-5547.

77 - A. Imberty, C. Monier, E. Bettler, S. Morera, P. Freemont, M. Sippl, H. Fl ockner, W. R uger & C. Breton (1999) Fold recognition study of a  $\alpha$ 3-galactosyltransferase and molecular modeling of the nucleotide-sugar binding domain. *Glycobiology* **9**, 713-722. [[PubMed](#)]

76 - C.A. Bush, M. Martin-Pastor & A. Imberty (1999) Structure and conformation of complex carbohydrates of glycoproteins, glycolipids, and bacterial polysaccharides. *Annu. Rev. Biophys. Biomol. Struct.* **28**, 269-293. [[PubMed](#)]

75 - T.W Hamelryck, R. Loris, J. Bouckaert, M.H. Dao Thi, G. Strecker, A. Imberty, E. Fernandez, L. Wyns & M.E. Etzler (1999) Carbohydrate binding, quaternary structure and a novel hydrophobic binding site in two legume lectin oligomers from *Dolichos biflorus*. *J. Mol. Biol.* **286**, 1161-1177. [[PubMed](#)]

## 1998

74 - S. P erez , A. Imberty, S.B. Engelsen, J. Gruz a, K. Mazeau, J. Jimenez-Barbero, A. Poveda, J.F. Espinosa, B.P. van Eyck, G. Jonhson, A.D. french, M.L.C.E. Kouwijzer, D.J. Grootenhuis, A. Bernardi, L. Raimondi, H. Senderowitz, V. Durier, G. Vergoten, & K.Rasmussen K. (1998) A comparison and chemometric analysis of several molecular mechanics force fields and parameters sets applied to



carbohydrates. *Carbohydr. Res.* **314**, 141-155.

73 - A. Imberty & C.-W. von der Lieth (1998) The ligand's personality. *Carbohydrates in Europe* **23**, 30-35.

72.- A. Imberty, J. Gruza, N. Mouhous-Riou, B. Bachet & S. Pérez (1998) The crystal and molecular structure of a diglycosylamine: the N-analogue of peracetylated  $\alpha,\alpha$ -trehalose. *Carbohydr. Res.* **311**, 135-146.

71 - A. Imberty, N. Mouhous-Riou, P. Rollin, S. Cassel, C. Lorin, & S. Pérez (1998) Crystal and molecular structures of two aza-heterocyclic derivatives of 6-thio-D-galactopyranose. *J. Carbohydr. Chem.* **17**, 923-936.

70 - C.Breton, E. Bettler, D.H. Joziasse, R.A. Geremia & A. Imberty (1998) Sequence-function relationships in prokaryotic and eukaryotic galactosyltransferases. *J. Biochem.* **123**, 1000-1009. [[PubMed](#)]

69 - J. Gruza, K. Koča, S. Pérez & A. Imberty (1998) Comparison of force-fields parametrizations as applied to conformational analysis of ribofuranosides. *J. Mol. Struct. (Theochem)* **424**, 269-280.

68 - J.F. Espinosa, E. Montero, A. Vian, J.L. Garcia, H. Dietrich, R.R. Schmidt, M. Martin-Lomas, A. Imberty, F.J. Canada & J. Jimenez-Barbero (1998) Escherichia coli  $\beta$ -galactosidase recognizes a high-energy conformation of C-lactose, a nonhydrolyzable substrate analogue. NMR and modeling studies of the molecular complex. *J. Am. Chem. Soc.* **120**, 1309-1318.

67 - C. Breton, R. Oriol & A. Imberty (1998) Conserved structural features in eukaryotic and prokaryotic fucosyltransferases. *Glycobiology* **8**, 87-94. [[PubMed](#)]

66 - A. Imberty, A. Gohier, E. Jordan, I.J. Goldstein & S. Pérez (1998) Internet J. Chem. 1, #10 molecular modeling of native and mutated lima bean lectin : Dissection of lectin/blood group A trisaccharide interactions. [[Electronic paper](#)]

65 - A. Imberty & S. Pérez (1998) Traveling through the potential energy surface of sialyl Lewis x. In "Carbohydrate mimics. Concepts and Methods" (Y. Chapleur, ed.) Weinheim, Wiley VCH, 349-364.

## 1997

64 - A. Imberty, V. Piller, F. Piller & C. Breton (1997) Fold recognition and molecular modeling of a lectin-like domain in uDP-GalNAc:polypeptide N-acetylgalactosaminyltransferases. *Protein engineer.* **10**, 1353-1356. [[PubMed](#)]

63 - F. Casset, S. Pérez & A. Imberty (1997) Regards sur les interactions lectine-glucide. *Regards sur la Biochimie* **4**, 59-70.

62 - T. Sokolowski, T. Peters, S. Pérez & A. Imberty (1997) Conformational analysis of biantennary glycans and molecular modeling of their complexes with lentil lectin. *J. Mol. Graph. Model.* **15**, 37-42. [[PubMed](#)]

61 - S. Cros, M. Petitou, P. Sizun, S. Pérez & A. Imberty (1997) Combined NMR and molecular modeling study of an iduronic acid-containing trisaccharide related to antithrombotic heparin fragments. *Bioorg. Med. Chem.* **5**, 1301-1309. [[PubMed](#)]

60 - A. Imberty (1997) Oligosaccharide structures: theory versus experiment. *Curr. Opinion Struct. Biol.* **7**, 617-623. [[PubMed](#)]

59 - F. Casset, A. Imberty, C. Hervé du Penhoat, J. Koča & S. Pérez (1997) Validation of two conformation searching methods applied to sucrose : simulation of NMR and chiro-optical data. *Theochem J. Mol. Struct.* **395**, 211-224.

58 - T. Weimar, T. Peters, S. Pérez & A. Imberty (1997) Combined NMR, grid search/MM3 and Metropolis Monte Carlo/GEGOP studies of two l-fucose containing disaccharides:  $\alpha$ -L-Fuc-(1,4)- $\beta$ -D-GlcNAc-OMe and :  $\alpha$ -L-Fuc-(1,6)- $\beta$ -D-GlcNAc-OMe. *Theochem J. Mol. Struct.* **395**, 297-311.

57 - P.H. Buist, B. Behrouzian, S. Cassel, C. Lorin, P. Rollin, A. Imberty & S. Pérez (1997) Stereochemical analysis of D-galacto-sulfoxides using (S)- $\alpha$ -methoxyphenylacetic acid. *Tetrahedron Assym.* **8**, 1959-1961.

56 - F. Casset, A. Imberty, S. Pérez, M.E. Etzler, H. Paulsen & T. Peters (1997) Transferred nuclear Overhauser enhancement (NOE) and rotating-frame NOE experiments reflect the size of the bound segment of the Forssman pentasaccharide in the binding site of *Dolichos Biflorus* lectin. *Eur. J. Biochem.* **244**, 242-250. [[PubMed](#)]

## 1996

55 - A. Gohier, J.-F. Espinosa, J. Jimenez-Barbero, P.-A. Carrupt, S. Pérez & A. Imberty (1996) Knowledge-based modeling of a legume lectin and docking of the carbohydrate ligand: The *Ulex europaeus* lectin I and its interaction with fucose. *J. Mol. Graph.* **14**, 322-327. [[PubMed](#)]

54 - A. Imberty, R. Mollicone, E. Mikros, P.-A. Carrupt, S. Pérez & R. Oriol (1996) How do antibodies and lectins recognize histo-blood group antigens ? A 3D-QSAR study by comparative molecular field analysis (CoMFA). *Bioorg. Med. Chem.* **4**, 1979-1988. [[PubMed](#)]

53 - D. Rondeau, E. Raoult, A. Tallec, S. Sinbandhit, L. Toupet, A. Imberty & J.P. Pradère (1996) Electrochemical access to functionalized dihydrothiopyran derivatives. Part 1 : Electroreduction of tetraactivated 4H-thiopyrans. *J. Chem. Soc. Perkin Trans.* **2**, 2623-2629.

52. C. Breton, R. Oriol & A. Imberty (1996) Sequence alignment and fold recognition of fucosyltransferases. *Glycobiology* **6**, vii-xii. [[PubMed](#)]

51 - Y. Blériot, A. Genre-Grandpierre, A. Imberty & C. Tellier (1996) Structure and conformation of mannoamidines by NMR and molecular modeling: Are they good transition state mimics? *J. Carbohydr. Chem.* **15**, 985-1000.

50 - Pérez & A. Imberty (1996) Structural features of starch (Invited review). *Carbohydrates in Europe*, Oct, 17-21.

49 - S. Pérez, N. Mouhous-Riou, N.E. Nifantiev, Y.E. Tsvetkov, B. Bachet & A. Imberty (1996) Crystal and molecular structure of a histo-blood group antigen involved in cell adhesion : the lewis X trisaccharide. *Glycobiology* **6**, 537-542. [[PubMed](#)]

48 - S. Cros, C. Garnier, M.A.V. Axelos, A. Imberty & S. Pérez (1996) Solution conformations of pectin polysaccharides: Determination of chain characteristics by small angle neutron scattering, viscometry and molecular modeling. *Biopolymers* **39**, 339-351. [[PubMed](#)]

47 - G.W. Robijn, A. Imberty, D.J.C. van den Berg, A.M. Ledebøer, J.P. Kamerling, J.F.G. Vliengenthart & S. Pérez (1996) Predicting helical structures of the exopolysaccharide produced by *Lactobacillus sake* 0-1. *Carbohydr. Res.* **288**, 57-74. [[PubMed](#)]

46 - F. Casset, T. Peters, M. Etzler, E. Korchagina, N. Nifantiev, S. Pérez & A. Imberty (1996) Conformational analysis of blood group A trisaccharide in solution and in the binding site of *Dolichos biflorus* lectin using transient and transferred nuclear Overhauser enhancement (NOE) and rotating-frame NOE experiments. *Eur. J. Biochem.* **239**, 710-719. [[PubMed](#)]

45 - R. Mollicone, A. Cailleau, A. Imberty, P. Gane, S. Pérez & R. Oriol (1996) Recognition of the blood group H type 2 trisaccharide epitope by 28 monoclonal antibodies and three lectins. *Glycoconjugate J.* **13**, 263-271. [[PubMed](#)]

## 1995

- 44 - F. Casset, T. Hamelryck, R. Loris, J.R. Brisson, C. Tellier, M.-H. Dao-Thi, L. Wyns, F. Poortmans, S. Pérez & A. Imberty (1995) NMR, molecular modeling and crystallographic studies of lentil lectin-sucrose interactions. *J. Biol. Chem.* **270**, 25619-25628. [[PubMed](#)] [[hal-027155337](#)]
- 43 - A. Imberty & S. Pérez (1995) Stereochemistry of the N-glycosylation sites in glycoproteins. *Protein Engineer.* **8**, 699-709. [[PubMed](#)]
- 42 - F. Casset, A. Imberty, R. Haser, F. Payan & S. Pérez (1995) Molecular modelling of the interaction between the catalytic site of pig pancreatic  $\alpha$ -amylase and amylose fragments. *Eur. J. Biochem.* **232**, 284-295. [[PubMed](#)]
- 41 - A. Imberty, E. Mikros, K. Koča, R. Mollicone, R. Oriol & S. Pérez (1995) Computer simulation of histo-blood group oligosaccharides. Energy maps of all constituting disaccharides and potential energy surfaces of 14 ABH and Lewis carbohydrate antigens. *Glycoconj. J.* **12**, 331-349. [[PubMed](#)]
- 40 - S. Pérez, C. Meyer & A. Imberty (1995) Practical tools for accurate modeling of complex carbohydrates and their interactions with proteins. In "*Modelling of Biomolecular Structures and Mechanisms*" (A. Pullman, J. Jortner & B. Pullman, Eds), Kluwer Academic Publishers, Dordrecht, pp 425-454.
- 39 - J. Koča, S. Pérez & A. Imberty (1995) Conformational analysis and flexibility of carbohydrates using the CICADA approach with MM3. *J. Comp. Chem.* **16**, 296-310
- 38 - R. Loris, F. Casset, J. Bouckaert, J. Pletinckx, M.-H. Dao-Thi, F. Poortmans, A. Imberty, S. Pérez & L. Wyns (1994) the monosaccharide binding site of lentil lectin : an X-ray and molecular modelling study. *Glycoconj. J.* **11**, 507-517. [[PubMed](#)]

## 1994

- 37 - A. Imberty, F. Casset, C.V. Gegg, M.E. Etzler & S. Pérez (1994) Molecular modelling of the *Dolichos biflorus* seed lectin and its specific interactions with carbohydrates :  $\alpha$ -D-N-acetyl-galactosamine, forssman disaccharide and blood group A trisaccharide. *Glycoconj. J.* **11**, 400-413. [[PubMed](#)]
- 36 - S. Cros, A. Imberty, N. Bouchemal, C. Hervé du Penhoat & S. Pérez (1994) Modeling of arabinofuranose and arabinan. Part 2: nmr and conformational analysis of arabinobiose and arabinan. *Biopolymers* **34**, 1433-1447.
- 35 - A. Imberty & S. Pérez (1994) Molecular modelling of protein-carbohydrate interactions. Understanding the specificities of two legume lectins towards oligosaccharides. *Glycobiology* **4**, 351-366. [[PubMed](#)]
- 34 - S. Pérez, A. Imberty & J.P. Carver (1994) Molecular modeling : An essential component in the structure determination of oligo- and polysaccharides. *Advances in Computational Biology* **1**, 147-202.

## 1993

- 33 - S. Cros, C. Hervé de Penhoat, S. Pérez & A. Imberty (1993) Modeling of arabinofuranose and arabinan. Part 1: conformational flexibility of the arabinofuranose ring. *Carbohydr. Res.* **248**, 81-93.
- 32 - C. Vergelati, A. Imberty & S. Pérez (1993) Water induced crystalline transition of polyamide 6,6: A combined X-ray and molecular modeling approach. *Macromolecules* **26**, 4420-4425.
- 31 - A. Imberty, Y. Bourne, C. Cambillau, P. Rougé & S. Pérez (1993) Oligosaccharide conformation in protein/carbohydrate complexes. *Advances in Biophysical Chemistry* **3**, 71-118.

- 30 - J. Bara, A. Imberty, S. Pérez, K. Imai, A. Yachi & r. Oriol (1993) A fucose residue can mask the muc-1 epitopes in normal and cancerous gastric mucosae. *Int. J. Cancer*; **54**, 607-613. [[PubMed](#)]
- 29 - A. Imberty, F. Tonnard, A. Abouelfida, J.P. Pradère, M. Jubault & A. Tallec (1993) Molecular orbital calculations on substituted 4H-1,3-thiazines and electroreduction selectivity. *Sulfur lett.* **16**, 103-108.
- 28 - S. Pérez, C. Meyer, A. Imberty & A.D. French (1993) Molecular features and conformational flexibility of sucrose. In "*Sweet-Taste Chemoreception*" ( G. Birch, M. Mathlouthi & J. Kanters, Eds) Elsevier, 55-73.
- 27 - I. Braccini, V. Michon, C. Hervé du Penhoat, A. Imberty & S. Pérez(1993) Internal motion in carbohydrate as probed by NMR spectroscopy. *Int. J. Biol. Macromol.* **15**, 52-55. [[PubMed](#)]
- 26 - A. Imberty, S. Pérez, M. Hricovini, R.N. Shah & J.P. Carver (1993) Flexibility in a tetra-saccharide fragment from the high mannose type of N-linked oligosaccharide. *Int. J. Biol. Macromol.* **15**, 17-23. [[PubMed](#)]

### 1992

- 25 - S. Cros, C. Hervé du Penhoat , N. Bouchemal, H. Ohassan, A.Imberty & S. Pérez(1992) Solution conformation of a pectin fragment disaccharide using molecular modelling and nuclear magnetic resonance. *Int. J. Biol. Macromol.* **14**, 313-320. [[PubMed](#)]
- 24 - J.R. Brisson, H. Baumann, A. Imberty, S. Pérez & H. Jennings (1992) Helical epitope of the group B meningococcal  $\alpha(2-8)$ -linked sialic acid polysaccharide. *Biochemistry* **31**, 4996-5004. [[PubMed](#)]

### 1991

- 23 - A. Imberty, K.D. Hardman, J.P. Carver & S. Pérez (1991) Molecular modeling of protein-carbohydrate interactions. Docking of monosaccharides in the binding site of concanavalin A. *Glycobiology* **1**, 456-484. [[PubMed](#)]
- 22 - A. Imberty, M.M. Delage, Y. Bourne, C. Cambillau & S. Pérez (1991) Data bank of three-dimensional structures of disaccharides : Part II, N-acetylglucosaminic type N-glycans. Comparison with the crystal structure of a biantennary octasaccharide. *Glyconconj. J.* **8**, 456-483. [[PubMed](#)]
- 21 - A. Imberty, A. Buléon, V. Tran & S. Pérez (1991) Recent advances in knowledge of starch structure (Invited review). *Starch/Stärke* **43**, 375-384.
- 20 - C. Hervé du Penhoat, A. Imberty, N. Roques, V. Michon, J. Mentech, G. Descotes & S. Pérez (1991) Conformational behavior of sucrose and its deoxy analogue in water as determined by NMR and molecular modeling. *J. Am. Chem. Soc.* **113**, 3720-3727.

### 1990

- 19 - I. Tvaroška, A. Imberty & S. Pérez (1990) Solvent effect on the stability of isomaltose conformers. *Biopolymers* **30**, 369-379.
- 18 - J.P. Carver, D. Mandel, S.W. Michnick, A. Imberty & J. Brady (1990) Conformational analysis of oligosaccharides : Reconciliation of theory with experiment. In "*Computer Modelling of Carbohydrate Molecules*" ACS Symposium Series no 430 (A.D. French & J.W. Brady, Eds.) ACS, Washington, DC, 266-280.
- 17 - S. Pérez, A. Imberty & R.P. Scaringe (1990) Modeling of interactions of polysaccharide chains : Application to the crystalline polymorphism of starch granules. In "*Computer Modelling of Carbohydrate Molecules*" ACS Symposium Series no 430 (A.D. French & J.W. Brady, Eds.) ACS, Washington, DC,

281-299.

16 - A. Imberty, S. Gerber, V. Tran & S. Pérez (1990) Databank of three-dimensional structures of disaccharides, a tool to build 3D structures of oligosaccharides. Part I. Oligo-mannose type N-Glycans. *Glycoconj. J.* **7**, 27-54. [[hal-02703904](#)]

#### 1989

15 - A. Imberty, V. Tran & S. Pérez (1989) Relaxed potential energy surfaces of N-linked oligosaccharides : the mannose- $\alpha$ -(1-3)-mannose case. *J. Comp. Chem.* **11**, 205-216. [[hal-02723206](#)]

14 - A. Imberty & S. Pérez (1989) Conformational analysis and molecular modelling of the branching point of amylopectin. *Int. J. Biol. Macromol.* **11**, 177-185. [[PubMed](#)]

13 - J.P. Carver, S.W. Michnick, A. Imberty & D.A. Cumming (1989) Oligosaccharide-protein interactions : a three-dimensional view. In "*Carbohydrate Recognition in Cellular Function*" (G. Bock & S. Harnett, Eds.) John Wiley & Sons, England, 145, 1-26. [[PubMed](#)] [[hal-02782028](#)]

12 - V. Tran, A. Buléon, A. Imberty & S. Pérez (1989) Relaxed potential energy surfaces of maltose. *Biopolymers* **28**, 679-690.

#### 1988

11 - A. Imberty & S. Pérez (1988) A revisit to the three-dimensional structure of B-type starch. *Biopolymers* **27**, 1205-1221.

10 - A. Imberty, H. Chanzy, S. Pérez, A. Buléon & V. Tran (1988) The double-helical nature of the crystalline part of A-starch. *J. Mol. Biol.* **201**, 365-378. [[PubMed](#)]

9 - A. Imberty & S. Pérez (1988) Crystal structure and conformational features of  $\alpha$ -panose. *Carbohydr. Res.* **181**, 41-45.

#### 1987

8 - A. Imberty, H. Chanzy, Pérez, A. Buléon & V. Tran (1987) Three-dimensional structure analysis of the crystalline moiety of A-starch. *Food Hydrocoll.* **1**, 455-459.

7 - A. Imberty, H. Chanzy, S. Pérez, A. Buléon & V. Tran (1987); New three-dimensional structure for A-type starch. *Macromolecules* **20**, 2634-2636.

#### 1986

6 - R. Goldberg, A. Imberty, M. Liberman & R. Prat (1986) Relationships between peroxidatic activities and cell wall plasticity. In "*Molecular and Physiological Aspects of Plant Peroxidases*" (H. Greppin, C. Penel & Th. Gaspar Eds.) Université de Genève-Centre de Botanique, pp 209-220.

5 - A.M. Catesson, A. Imberty, R. Goldberg & Y. Czaninsky (1986) Nature, localization and specificity of peroxidases involved in lignification processes. In "*Molecular and Physiological Aspects of Plant Peroxidases*" (H. Greppin, C. Penel & Th. Gaspar Eds.) Université de Genève-Centre de Botanique, 190-198.

4 - R. Goldberg, A. Imberty & J. Chu-Ba (1986) Development of isoperoxidases along the growth gradient in the mung bean hypocotyl. *Phytochemistry* **25**, 1271-1274.

#### 1985

3 - A. Imberty, R. Goldberg & A.M. Catesson (1985) Isolation and characterization of Populus isoperoxidases involved in the last step of lignin formation. *Planta* **164**, 221-226.

**1984**

2 - A. Imberty, R. Goldberg & A.M. Catesson (1984) Specific time course of peroxidase oxidation in the presence of SH-containing inhibitors. Comparison with the inhibition of polyphenoloxidase activities. *Plant Cell Physiol.* **25**, 1389-1394.

1 - A. Imberty, R. Goldberg & A.M. Catesson (1984) Tetramethylbenzidine and p-phenylenediamine-pyrocatechol for peroxidase histochemistry and biochemistry : two new, non-carcinogenic chromogens for investigating lignification process. *Plant Sci. Lett.* **35**, 103-106.

---