

Elena Moreno-Clavijo, Ana T. Carmona, Antonio J. Moreno-Vargas, Lidia Molina Daniel W. Wright, Gideon J. Davies, Inmaculada Robina. Exploring a Multivalent Approach on α -L-Fucosidase Inhibition. *Eur. J. Org. Chem.* 7328-7336.

To probe the utility of a multivalent approach for fucosidase inhibition, a series of di- and tri-valent imino sugars based on *L-fuco*-configured 1,4-imino- and 1,4-bis(imino)-cyclitol epitopes has been synthesized and analyzed for fucosidase inhibition with the best trivalent species yielding a modest improvement in binding constant. Structural analysis of a representative pair of mono- and tri-valent imino sugars has been performed on a bacterial fucosidase, *BtFuc2970*. The 3D structures show binding of the imino-cyclitol in the ³*E* conformation, consistent with the known pathway for fucosidase action.