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The Synthesis of Mannose-derived Bioconjugates and Enzyme Inhibitors

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“It’s nice to be important, but it’s more important to be nice”
Scooter *“Move your ass!”* (1995)

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List of abbreviations

4MUGlc	4-methylumbelliferyl- β-D-glucopyranoside	EEDQ	2-ethoxy-1- ethoxycarbonyl-1,2- dihydroquinoline
AA	amino acid	ESI	electron spray ionization
ABP	activity-based probe	Et	ethyl
ABPP	activity-based protein profiling	Et ₂ O	diethylether
Ac	acetyl	Et ₃ N	triethylamine
APC	antigen presenting cell	EtOAc	ethyl acetate
BM	bone marrow	Fmoc	(9 <i>H</i> -fluoren-9-yl) methoxycarbonyl
Bn	benzyl	GBA	glucocerebrosidase
Boc	<i>tert</i> -butyloxycarbonyl	GH	glycosyl hydrolase
BODIPY	boron- dipyrromethane	h	hour(s)
Bu	butyl	HCTU	(2-(6-chloro-1 <i>H</i> - benzotriazole-1-yl)-1,1,3,3- tetramethyluronium hexafluorophosphate
Bz	benzoyl	HOBt	<i>N</i> -hydroxybenzotriazole
CBB	coomassie brilliant blue	HPLC	high performance liquid chromatography
CLRs	C-type lectin receptors	IC50	inhibition concentration resulting in 50% inhibition of enzyme activity
CPRG	chlorophenol β-D- galactopyranoside	<i>J</i>	coupling constant
CSA	camphorsulfonic acid	LC-MS	liquid chromatography- mass spectrometry
d	doublet	m	multiplet
DABCO	1,4-diazabicyclo [2,2,2]octane	M	molar
DC	dendritic cell	<i>m/z</i>	mass-t-charge ratio
DCE	dichloroethane	Man	mannose
DCM	dichloromethane	<i>m</i> CPBA	<i>meta</i> -chloroperbenzoic acid
dd	double doublet	Me	methyl
ddd	double double doublet	MeCN	acetonitril
DFT	density functional theory	MeOH	methanol
DIBAL-H	diisobutylaluminium hydride		
DIC	<i>N,N</i> -diisopropyl carbodiimide		
DiPEA	diisopropylethylamine		
DMAP	4-(dimethylamino) pyridine		
DMF	<i>N,N</i> -dimethyl formamide		
DMSO	dimethylsulfoxide		
dt	double triplet		

MHC	major histocompatibility complex	rt	room temperature
MMTrt	monomethoxy trityl	s	singlet
MR	mannose receptor	SDS-	sodium dodecyl sulfate-poly
Ms	methanesulfonyl (mesyl)	PAGE	acrylamine gel
MS,	molecular sieves		electrophoresis
Mol. Siev.		Su	succinimidyl
NBS	<i>N</i> -bromosuccinimide	t	triplet
NIS	<i>N</i> -iodosuccinimide	TBAF	tetrabutylammonium fluoride
NLR	nucleotide-binding oligomerization domain-like receptor	TBDMS	tert-butyldimethylsilyl
NMP	<i>N</i> -methyl-2-pyrrolidone	<i>tert, t</i>	tertiary
NMR	nuclear magnetic resonance	Tf	trifluoromethanesulfonyl (triflate)
PAMP	pathogen associated molecular pattern	TFA	trifluoroacetic acid
PBS	phosphate buffer saline	THF	tetrahydrofuran
Ph	phenyl	TIPS	triisopropylsilyl
ppm	parts per million	TLC	thin layer chromatography
<i>p</i> Ts	<i>para</i> -toluenesulfonyl	TLRs	toll-like receptors
q	quartet	TMR	tetramethylrhodamine
RP	reverse phase	TMS	tetramethylsilane
		Trt	trityl
		UV	ultra violet

