GENERAL REMARKS

The numbers given to the literature references, structures, tables, figures and charts have been made continuous separately in each part of the dissertation. The references have been cited at the end of the respective part of the thesis.

Petroleum ether (60-80°C) has been used and referred as petrol. Extracts of products in organic solvents were generally washed with saturated aqueous solution of sodium chloride and dried over anhydrous sodium sulphate in all cases.

The crude residues were fractionated in each case by column chromatography (silica gel, 60-120 mesh, Tara Chemicals, Kolkata), preparative thin layer chromatography (silica gel G, E. Merck) and final purification by chromatography on a short column of silica gel (100-200 mesh, E Merck). Spots were detected by staining with iodine vapour. All chromatography experiments were monitored by micro-tie Gas chromatography (GLC) experiments described in Part-I were carried out on a Hewlett Packard M5890, Series II gas chromatograph fitted with a Hewlett Packard integrator M3394A. High performance liquid chromatography (HPLC) experiments described in Part-II of the dissertation were carried out on a Waters LC system fitted with M510 pumps, M410 differential refractometer, M486 tunable absorbance detector and a data station.

The UV spectra were recorded in spectral alcohol (methanol or ethanol) on a Hitachi U2000 Spectrophotometer and IR spectra were examined in KBr disc, unless otherwise stated, on a Perkin Elmer-782 spectrophotometer. NMR (¹H, ¹³C, ¹H-¹H COSY and ¹³C-¹H XHCCORR) experiments were recorded on a Bruker AM 300L supercon spectrometer equipped with ASPECT 3000 computer fitted with an array processor using programme version DISR87.1 or DISR94 in CDCl₃ as solvent, unless otherwise stated, at 300.13 MHz for proton and at 75.47 MHz for carbon. Multiplicity of the carbon signals were determined from DEPT-135 experiments. The chemical shift values are in 8 (ppm) downfield from TMS. Deuterio-solvent signal served as an internal standard in carbon spectral measurements; 8TMS = δ(CDCl₃) + 77.0 ppm = 8(CD₃OD) = 49.0 ppm. Standard procedures were used for two-dimensional NMR experiments. Optical rotations were measured in a Perkin Elmer M241 electronic polarimeter in CHCl₃ at 25°C. Mass spectra were taken in a Hitachi RMU 6L spectrometer operating at 70 eV.

In Section A of Part-I of the thesis sugar units linked to ceramide moieties of the various metabolites have been represented in abbreviated forms. The abbreviations employed are shown below in third bracket under the sugar unit in question. In Sections A and B in Part II the -β-D-glucopyranoside unit has been represented as Glu.
-O-β-D-Glucopyranoside [Glc]

-O-α-D-Glucopyranoside [Glc(α)]

-β-D-Galactopyranoside [Gal]

-α-D-Galactopyranoside [Gal(α)]

-β-D-α-D-Glucopyranoside [Glc](β)

-α-D-Glucopyranoside [Glc(α)]

-O-β-D-N-Acetylglucosamine [GlcNAc]

-O-β-D-N-Acetylgalactosamine [GalNAc]

-O-β-D-Arabino-β-D-Acetylgalactopyranoside [Gal(a)NAc]

-O-β-D-N-Methylgalactosamine [GalNMe]

-O-β-D-Galactofuranoside [Gal(α)]

-O-β-D-N-Acetylgalactosamine [GalNAc]

-O-α-D-Fucopyranoside [Fuc(α)]

-O-β-D-Fucopyranoside [Fuc]

-Neuraminic acid-5-acetate [Neu5Ac]

-Neuraminic acid-5-glycolate [Neu5Gc]