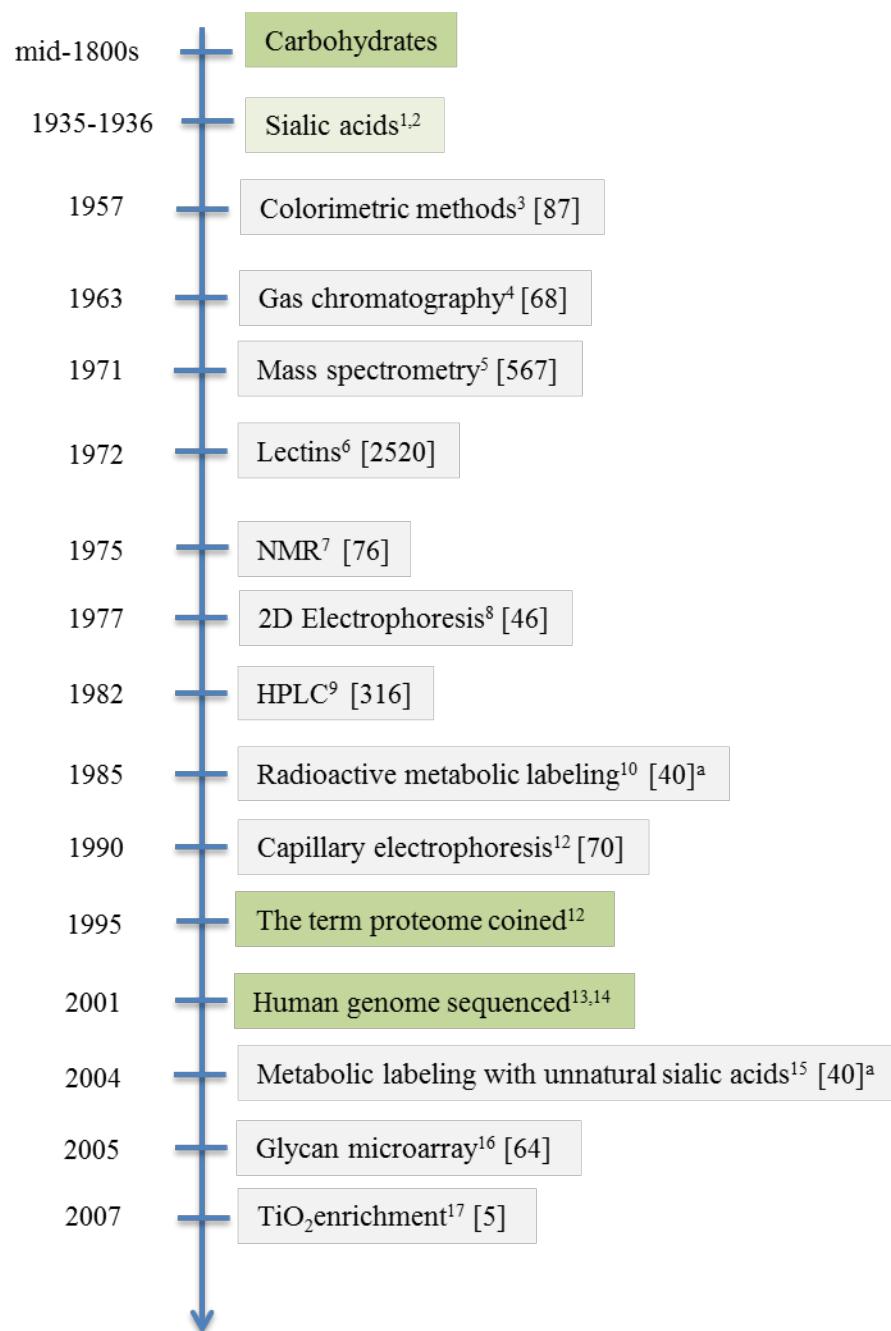


**Supplementary Figure S1:** Timeline highlighting significant discoveries for structural understanding of sialic acids. The year assigned to each technique is referred to the first publication reported in Pubmed (<http://www.ncbi.nlm.nih.gov/pubmed/>). To search for a specific technique applied to sialic acid detection, a combination of keywords was used. For example, the first report of HPLC applied to sialic acids detection was retrieved using the following keywords: “sialic acid\*[Title/Abstract] AND HPLC\*[Title/Abstract]”. In square brackets are reported the number of publications, up to date, that contain the specified keywords. a) The radioactive metabolic labeling and metabolic labling with unnatural sialic acids are reported with the same number of publications.



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