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(54) Title: AN IMPROVED PROCESS OF CONJUGATION AND NOVEL SYNTHETIC OLIGOSACCHARIDE- PROTEIN CONJUGATES OBTAINED THEREOF

(57) Abstract: The present invention relates to an improved process of conjugation to obtain synthetic oligosaccharide – protein (OS-PR) conjugates. The process of synthetic OS-PR conjugation is a rapid process providing oligosaccharide – protein conjugates which are highly immunogenic and elicit specific and homogenous immune responses. The synthetic oligosaccharide comprising of four to eight repeating units of respective monomers and at least one in-built terminal amino linker, said synthetic polysaccharide mimics natural polysaccharide obtained from gram negative bacteria such as *Neisseria meningitidis* serogroups A, C, Y, W, X and *Haemophilus influenzae* and carrier protein is obtained from gram positive bacteria such as *Clostridium tetani* (tetanus toxoid) or *Corynebacterium diphtheriae* (CRM197) or their recombinant versions. The conjugation chemistry of the said oligosaccharide-protein conjugate of the present invention is thio-ether linkage. The present invention takes complete process time in the range of 14-22 hours. The said oligosaccharide-protein conjugates are useful in production of monovalent vaccine or multivalent combination vaccines and as diagnostic tool.

