From the following data what is the structure of the disaccharide lactose ($C_{12}H_{22}O_{11}$)?

1. Lactose can be reduced with NaBH$_4$.

2. Oxidation (Br$_2$/H$_2$O) gives D-glucose and D-gluconic acid.

3. Methylation (CH$_3$-Br) followed by hydrolysis ($H^+$/H$_2$O) give 2,3,6-tri-O-methyl-D-glucose and 2,3,4,6-tetra-O-methyl-D-galactose.

4. Methylation (CH$_3$-Br) followed by hydrolysis ($H^+$/H$_2$O) give 2,3,6-tri-O-methyl-D-glucose and 2,3,4,6-tetra-O-methyl-D-galactose.