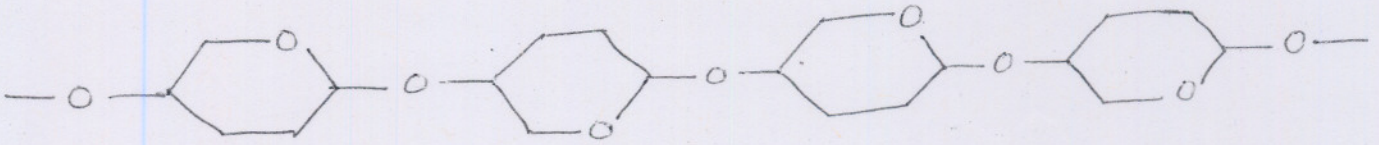
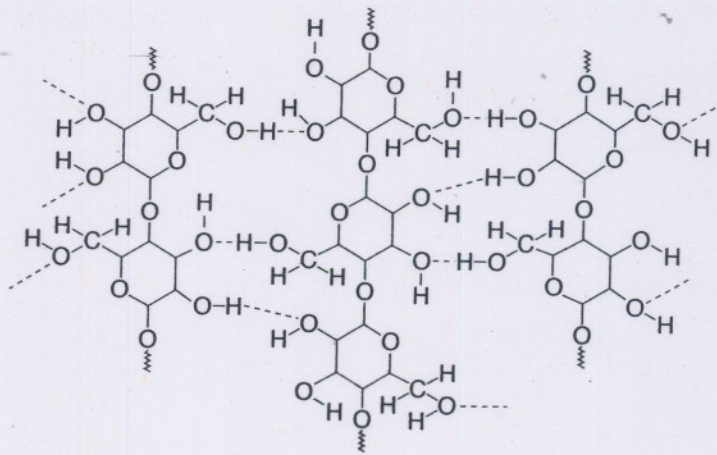


Simplified cellulose polymer chain



Hydrogen bonding between adjacent cellulose polymer chains



Vat dye molecules in a cellulose fiber

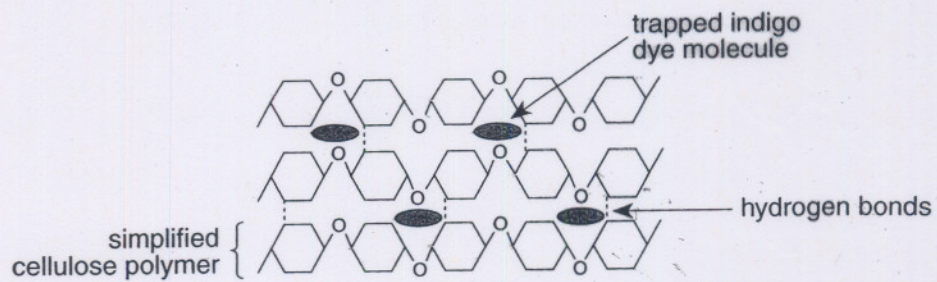
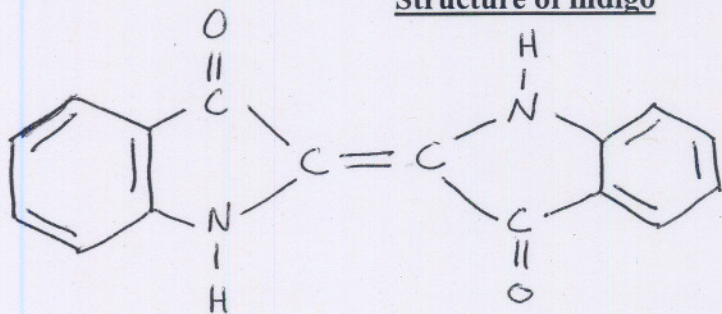
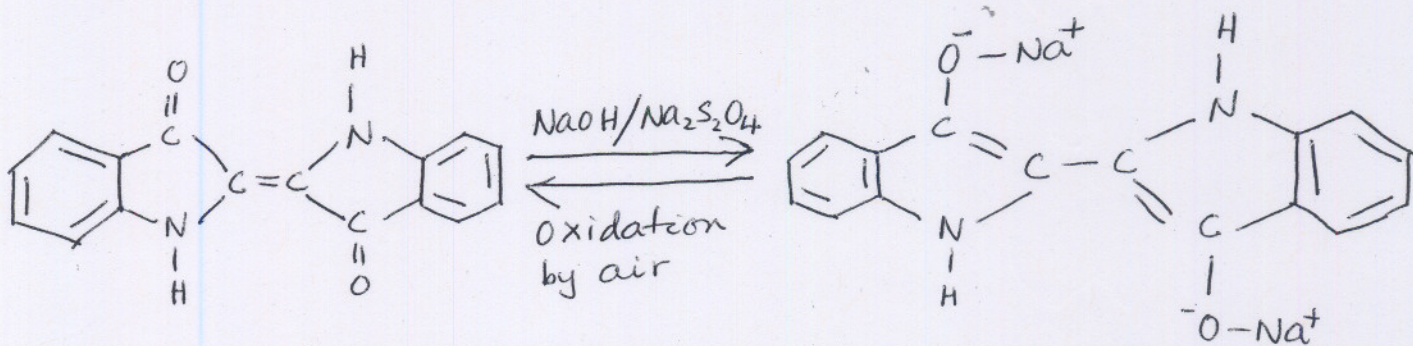


Figure A8: Vat dye molecules in a cellulose fiber

Structure of indigoReversible reduction-oxidation of indigo to its leuco base

indigo
blue
insoluble

colorless leuco base
form of indigo
water soluble