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Gluose

|\(\alpha\) linkage
|non-reducing

Starch - glucose polymer - \(\alpha\)-linkage
Cellulose - glucose polymer - \(\beta\)-linkage

Ch 25 - Aromatic Hetero cycles

Pyridine

6 \(\pi\) e

Pyridine

6 \(\pi\) e
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**Nitrogen Heterocycles**

- Furan
- Thiophene
- Pyridine
- Pyrimidine
- Pyridazine

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- *Basicity of Nitrogen Heterocycles*:
  - Strongest base: pyridine ($pK_a = 6$)
  - Weakest base: pyrimidine

- *Electrophilic Aromatic Substitution*:
  - Furan + Acryl chloride $\rightarrow$ (Major)
  - Thiophene + Acryl chloride $\rightarrow$ (Major)
  - Pyridine + Acryl chloride $\rightarrow$ (Major)

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**Examples**:

- Furan + Nitro group $\rightarrow$ (Major)
- Pyridine + Nitro group $\rightarrow$ (Major)

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Compare:

\[ \text{H} \] \[ \text{H} \]

\[ \text{NO}_2 \] \[ \text{NO}_2 \]

2 res.