

$$\log V^M(i, j) = \max \begin{cases} \log V^M(i-1, j-1) + s(x_i, y_j) \\ \log V^I(i-1, j-1) + s(x_i, y_j) \\ \log V^J(i-1, j-1) + s(x_i, y_j) \end{cases}$$

$$\log V^I(i, j) = \max \begin{cases} \log V^M(i-1, j) - d \\ \log V^I(i-1, j) - e \end{cases}$$

$$\log V^J(i, j) = \max \begin{cases} \log V^M(i, j-1) - d \\ \log V^J(i, j-1) - e \end{cases}$$