X1: A → C → G → G → A → T → C → G → T → C → C → C → T

X2: C → G → G → A → T → C → T → T → C → C → C → T

$\hat{X}$: A → C → G → G → A → T → C →(T)→ G → T → C → C → C → T

Y1: A → T → G → T → A → C → C → G → T → A → C → G → T

Y2: A → C → G → T → A → C → C → G → T → T → T → A → G → G → T

$\hat{Y}$: A → T → G → T → A → C → C → G → T → T → T → A →(G)→ C → G → T

$\hat{S}$: A → C → G → G → A → C → C → G → T → C → C → G → T