Inibitor number	[I] (M)	Vmax (U)	Km (M)	K_I (M)	K'_I (M)	Type of inhibitor
--	0	0.014	$4.15x10^{-4}$	-	-	-
22	$8x10^{-4}$	0.014	$2.08x10^{-3}$	$1.99x10^{-5}$M	-	Competitive

Inhibitor
[inhibitor] o = 8.0 mM (initial inhibitor concentration)
V o =50 uL (initial inhibitor volume)
Vf =500 uL (final concentration)
[inhibitor] = (final inhibitor concentration)
[inhibitor] = [inhibitor] o Vo / Vf
[inhibitor] = (8.0 mM) (50 uL) / 500 uL = $0.8x10^{-4}$ M
The final concentration of the inhibitor 22 was $0.8x10^{-4}$ M.

α
α = Km (inhibitor) / Km (control)
α = $2.08x10^{-3}/4.15x10^{-4}$ = 5.01
The alpha value was 0.12

Ki
Ki = [I]/(α -1)
Ki = $0.8x10^{-4}$ M / (5.01-1) = $1.99x10^{-5}$M
The Ki value was $1.99x10^{-5}$M.

R8.

[Enzyme] = 0.5 mg/mL
V enzyme = 0.05 mL
Vmax = 0.014 U

m_{enzyme} = [enzyme] V_{enzyme}
m_{enzyme} = (0.5 mg/mL)(0.05 mL) = 0.025 mg

Activity = Vmax / m
Activity = 0.014 U/0.025 mg

The specific activity of the enzyme was 0.56 U/mg