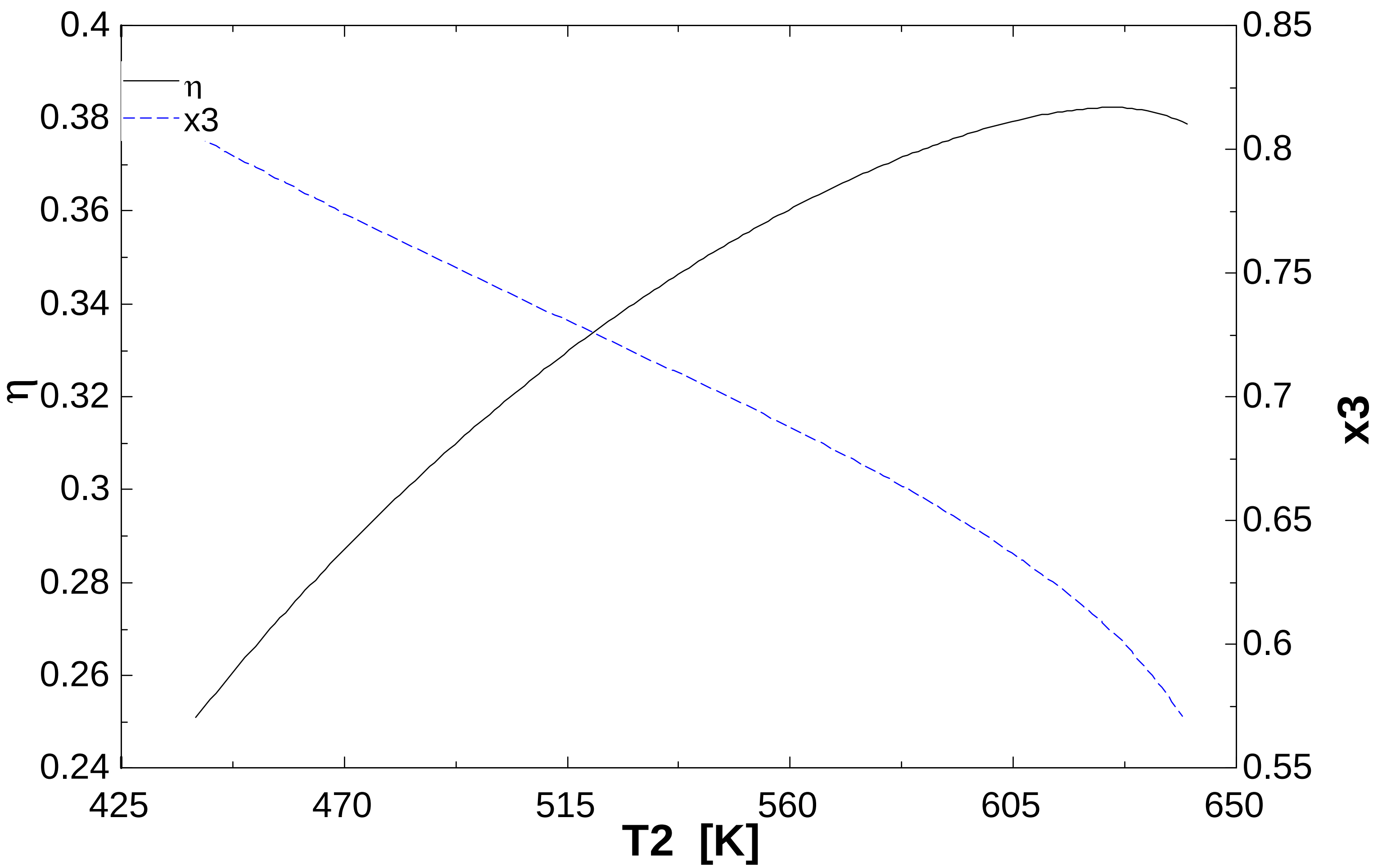
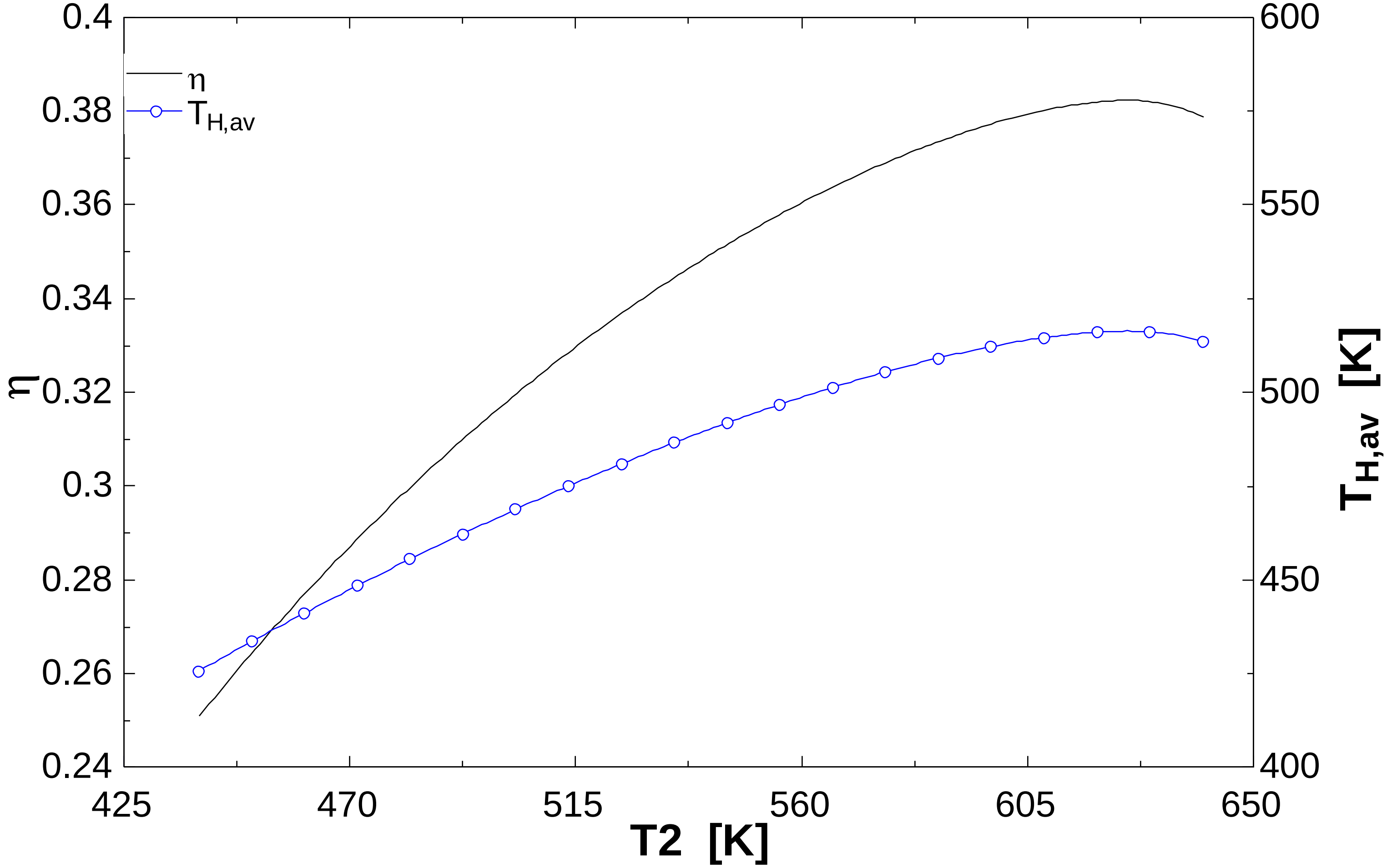
```
{T2=vary in table}
P2=P1
p2=pressure(STEAM_NBS,x=1,T=T2)
P3=10
h2=enthalpy(STEAM_NBS,T=T2,x=1)
s2=entropy(STEAM_NBS,T=T2,x=1)
s3=s2
h3i=enthalpy(STEAM_NBS,s=s3,P=P3)
h3=h2-eta_t*(h2-h3i)
x3=quality(STEAM_NBS,h=h3,P=P3)
T3=temperature(STEAM_NBS,p=p3,x=x3)
T_max=t_crit(STEAM_NBS)
P4=P3
eta_t=1
eta_p=1
T4=T3
h4=enthalpy(STEAM_NBS,x=0,P=P4)
s4=entropy(STEAM_NBS,x=0,P=P4)
s1=s4
h1i=enthalpy(STEAM_NBS,s=s4,P=P1)
h1=h4+(h1i-h4)/eta_p
T1=temperature(STEAM_NBS,h=h1,P=P1)
Wt=h2-h3
Wp=h1-h4
Qin=h2-h1
eta=(Wt-Wp)/Qin

{calculate the average temperature of heat addtion that you would have if you broke to reversible Rankine cycle into a large number of small Carnot cycles
that fit under the heat addition line}
T_H_av=(h2-h1)/(s2-s1)


{We see from the table and the plot that the maximum efficiency occurs at about 350 C.  At higher peak temperatures, relatively little heat
is added at the peak temperature compared to that heating the liquid.  Thus the highest average temperature of heat addition corresponds to
about 350 C peak temperature.}
```


η
x3
0.4
0.38
0.36
0.34
0.32
0.3
0.28
0.26
0.24
0.85
0.8
0.75
0.7
0.65
0.6
0.55
425
470
515
560
605
650
T2 [K]


0.4
0.38
0.36
0.34
0.32
0.3
0.28
0.26
0.24
η
η
T_{H,av}
425
470
515
560
605
650
T2 [K]
600
550
500
450
400
T_{H,av} [K]