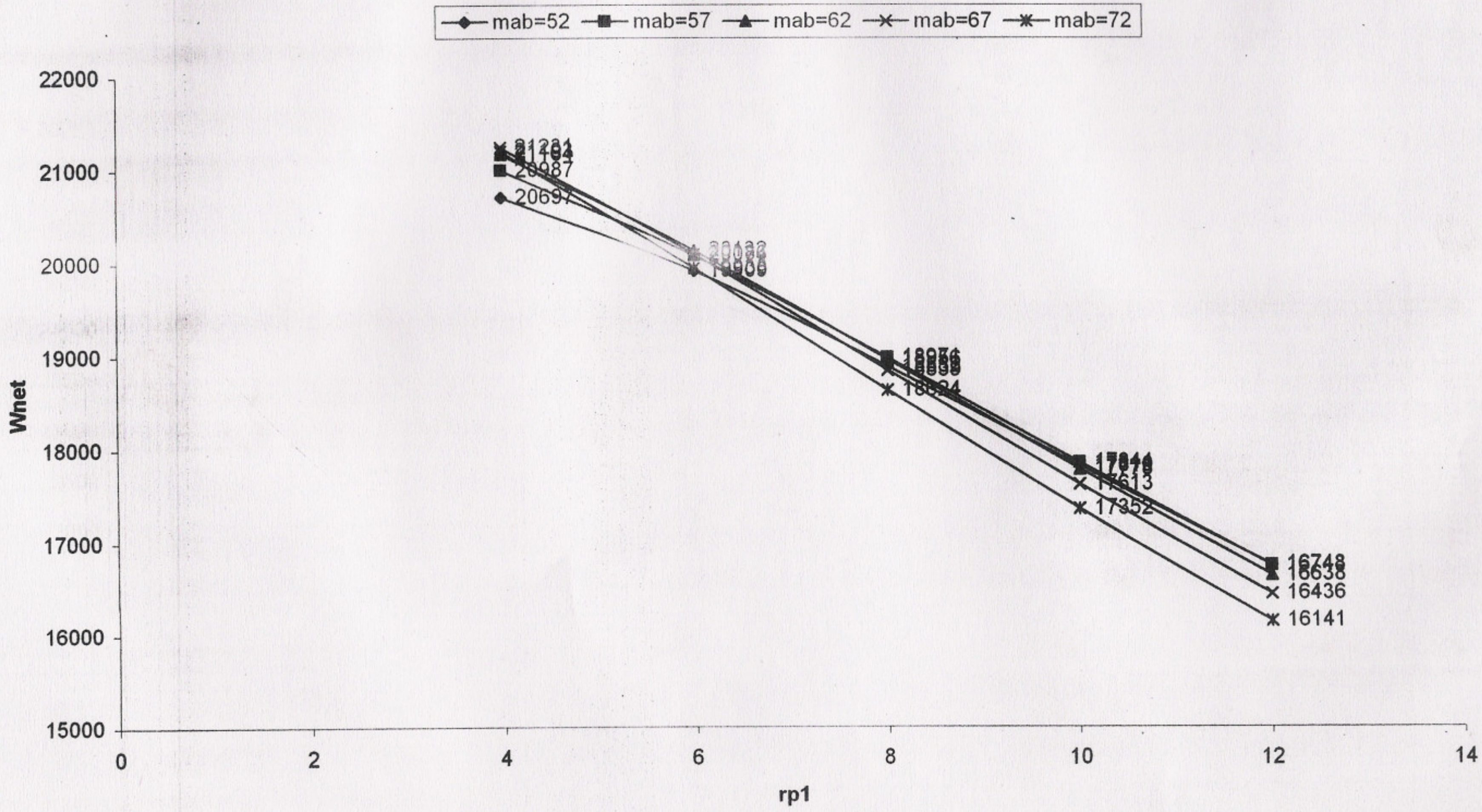
varition of net work of combined cycle w.r.t pressure ratuio of topping cycle of ABC" rp1" at t3t=1000 for two intercooler



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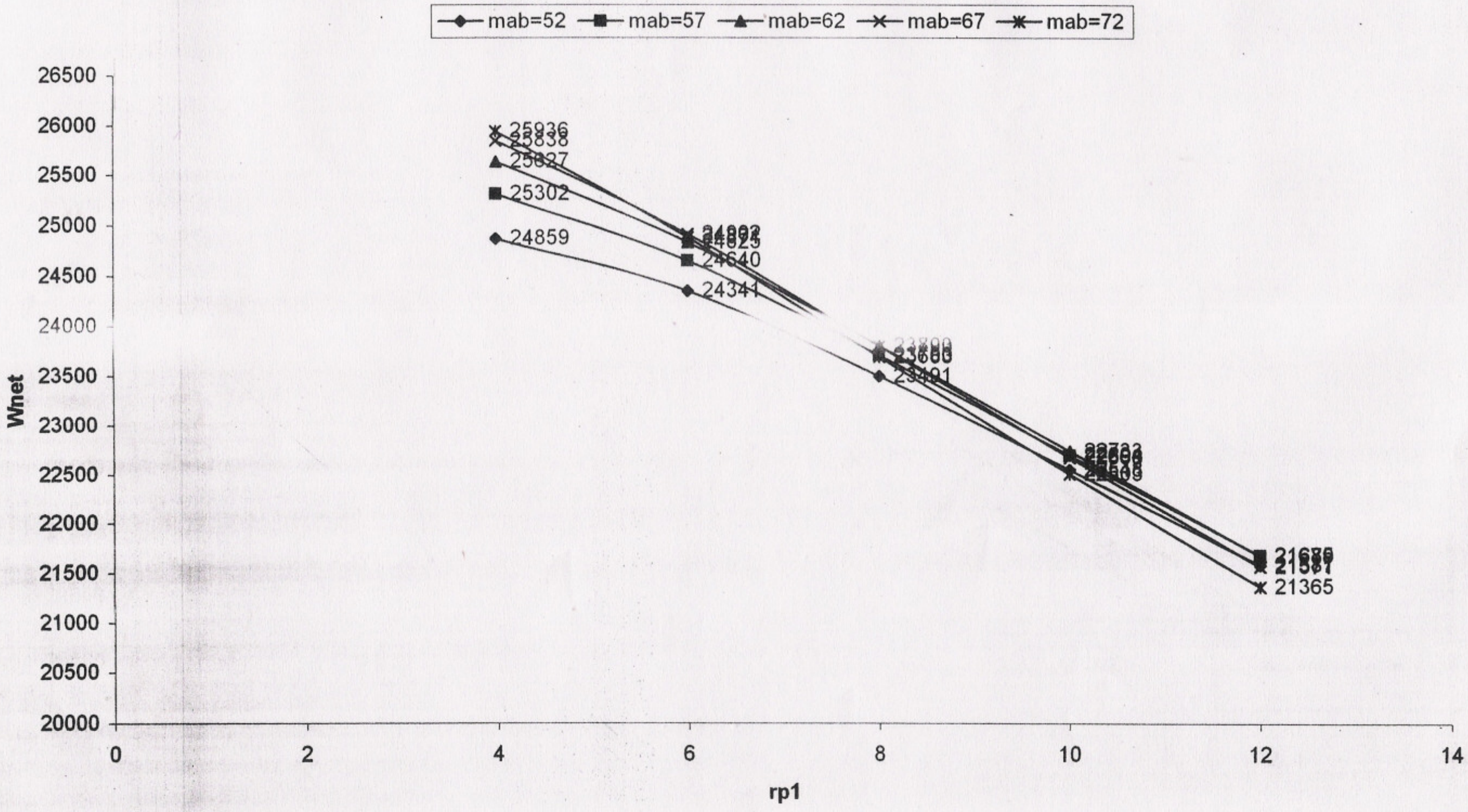
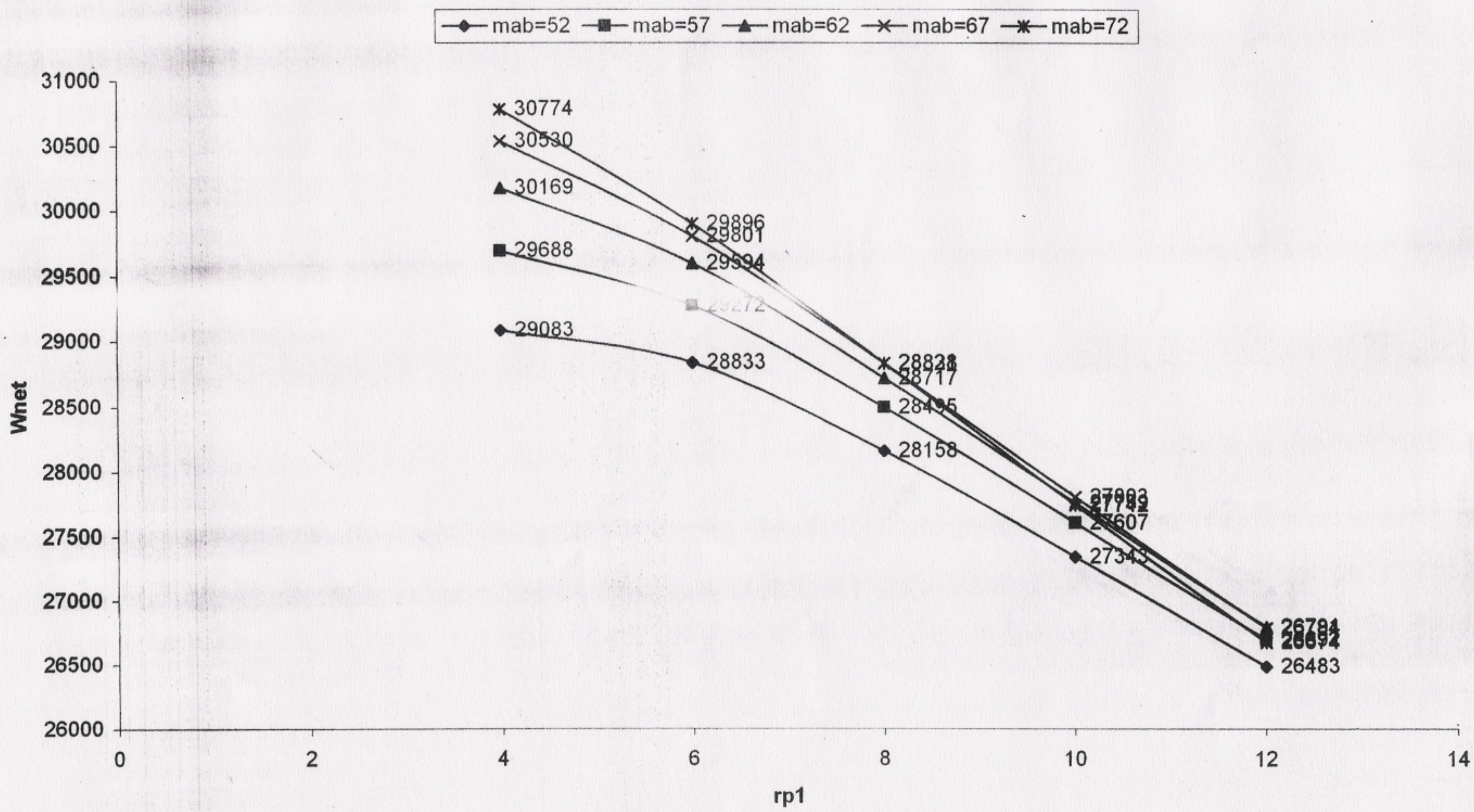
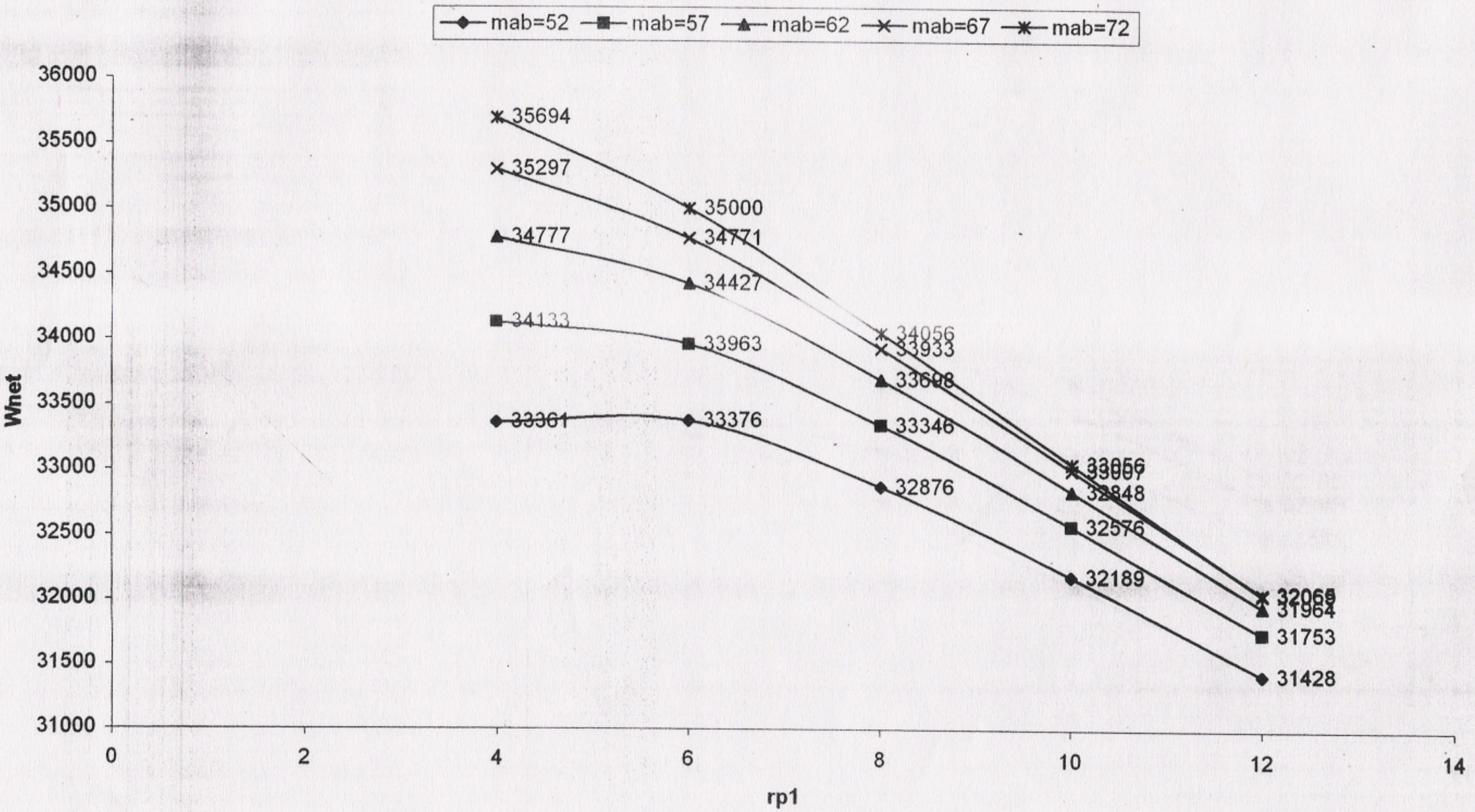


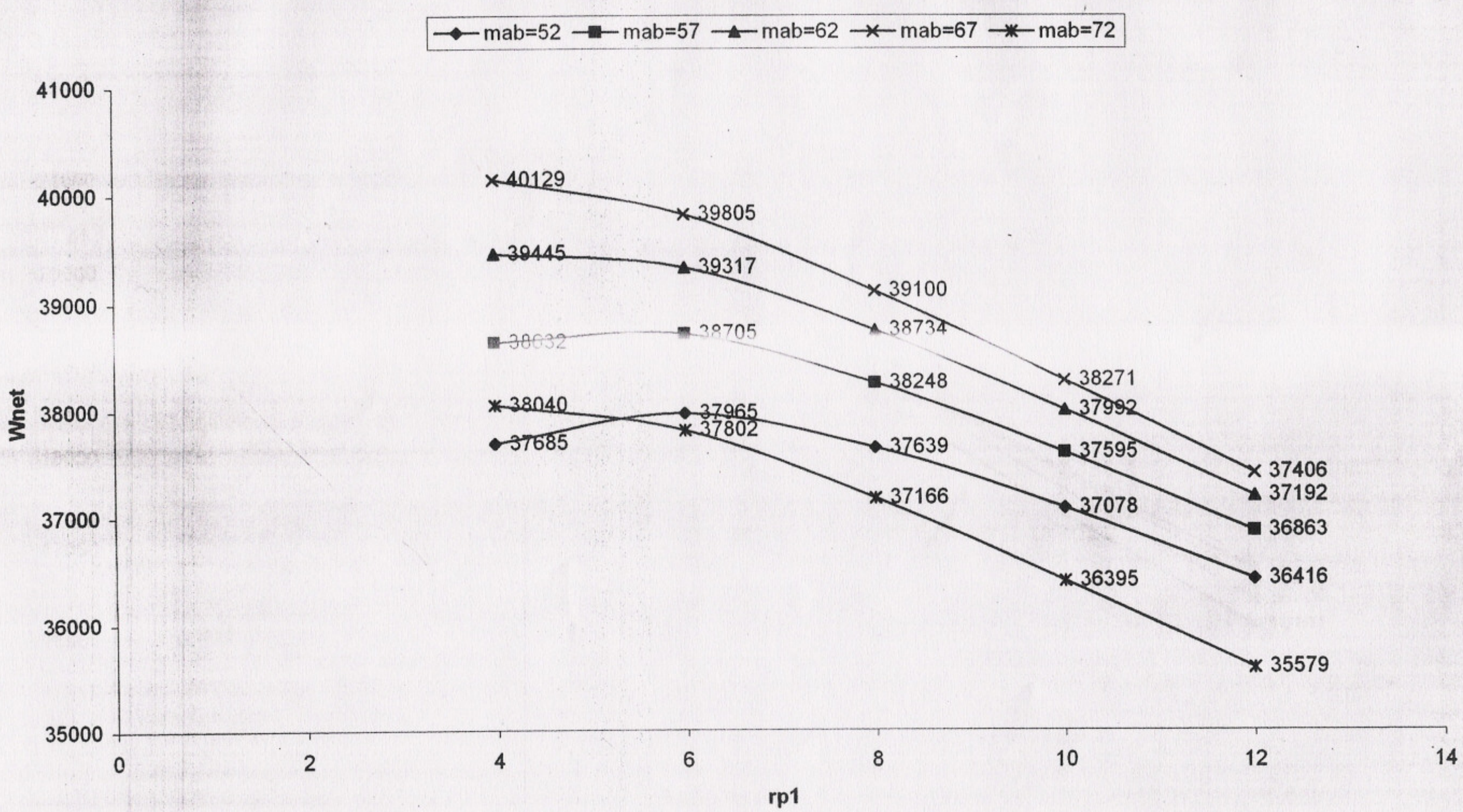
varition of net work of combined cycle w.r.t pressure ratio of topping cycle of ABC ".rp1" at t3t=1200 for two intercooler



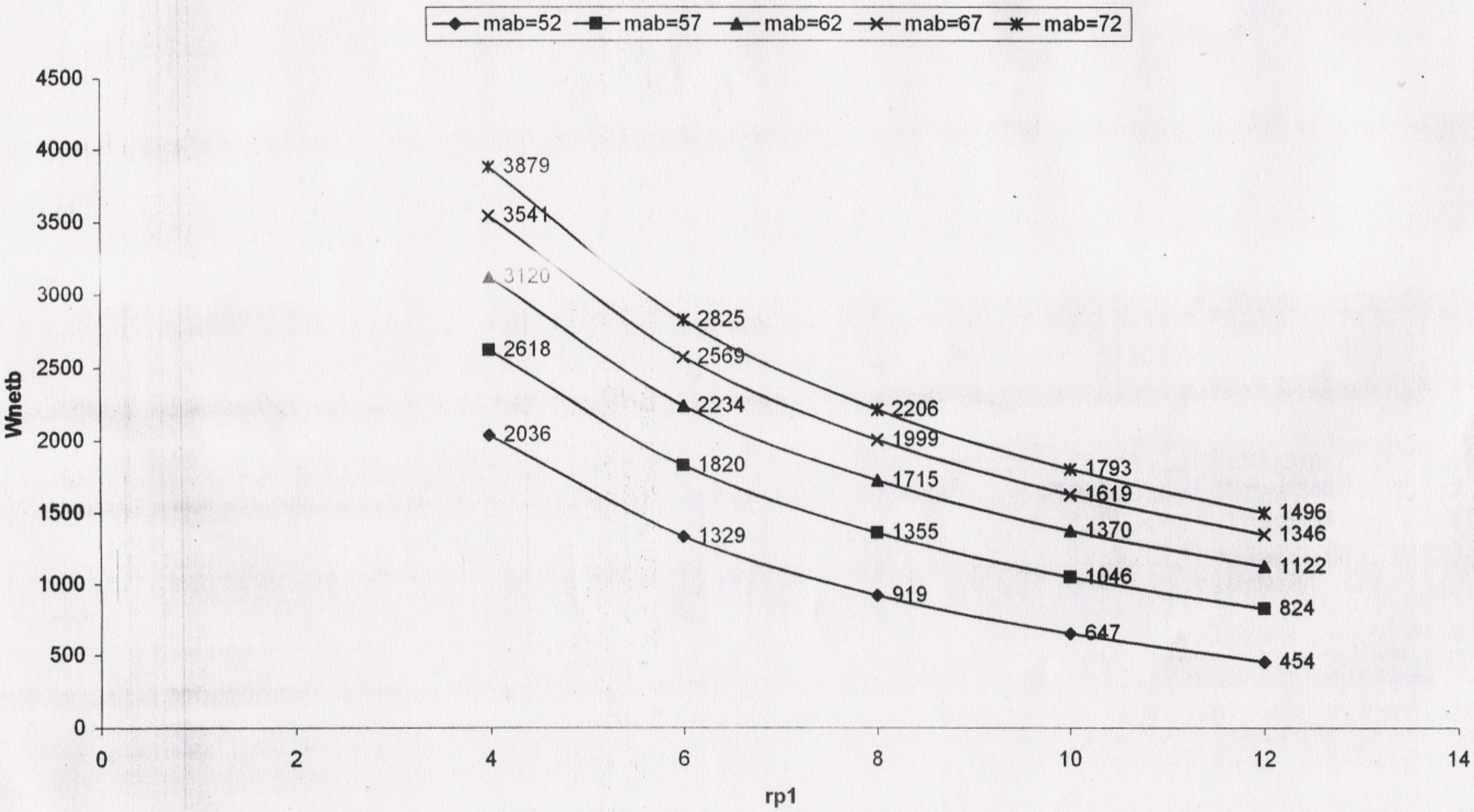
varition of net work of combined cycle w.r.t pressure ratio of topping cycle of ABC " rp1" at t3t=1300 for two intercooler

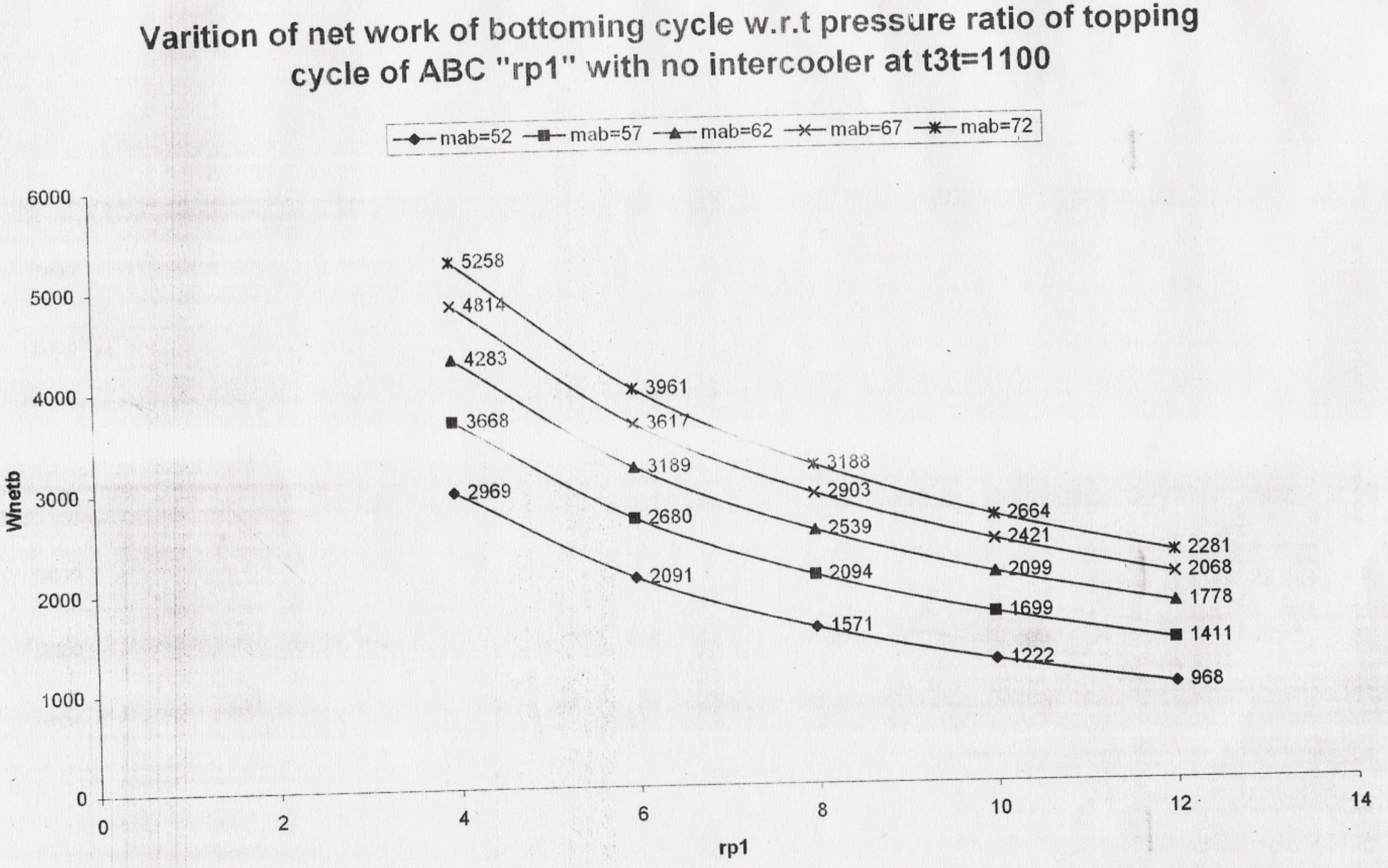


varition of net work of combined cycle w.r.t pressure ratio of topping cycle of ABC " rp1" at t3t=1400 for two intercooler

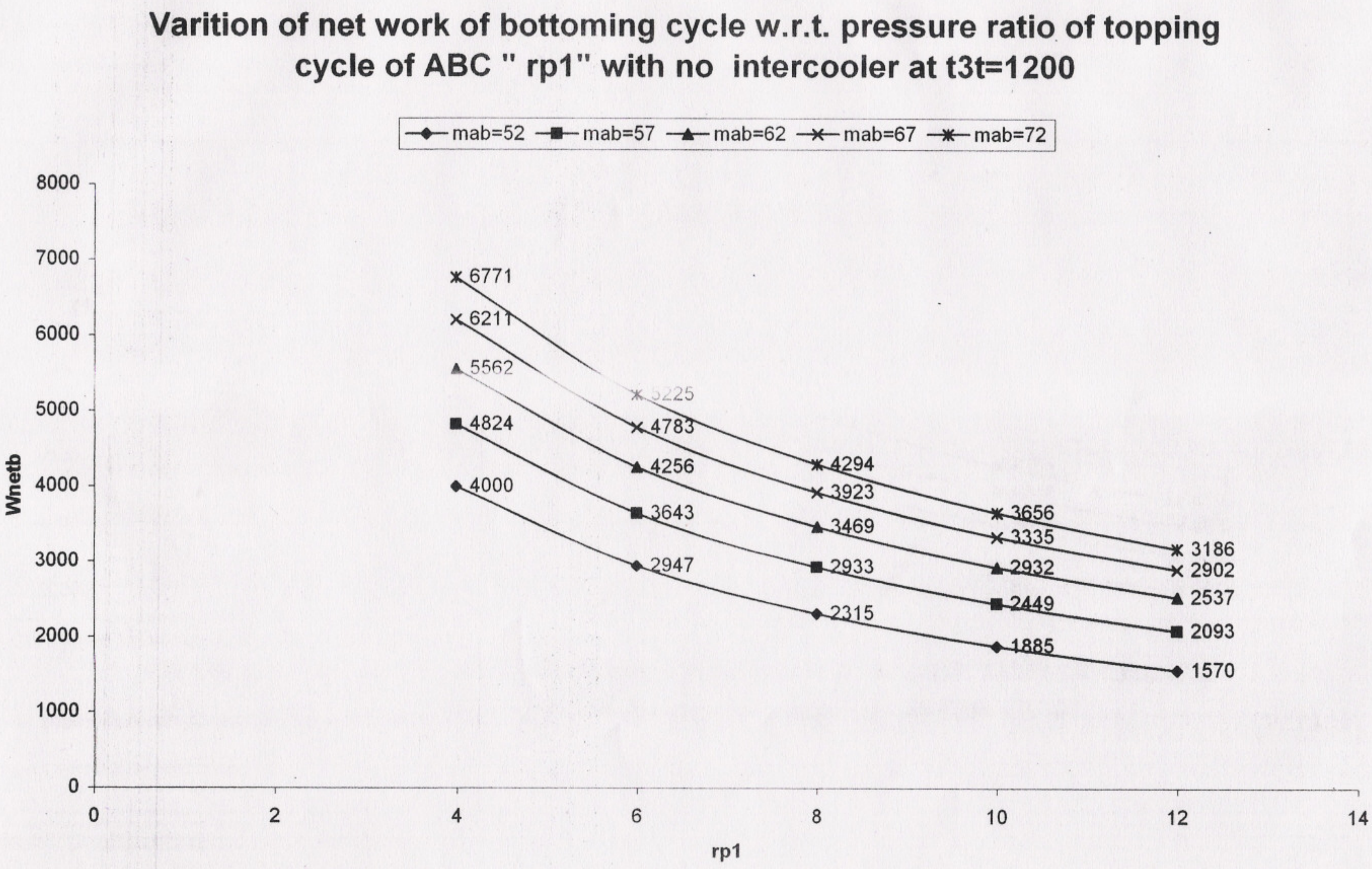


Varition of net work of bottoming cycle w.r.t pressure ratio of topping cycle of ABC "rp1"with no intercooler at t3t=1000

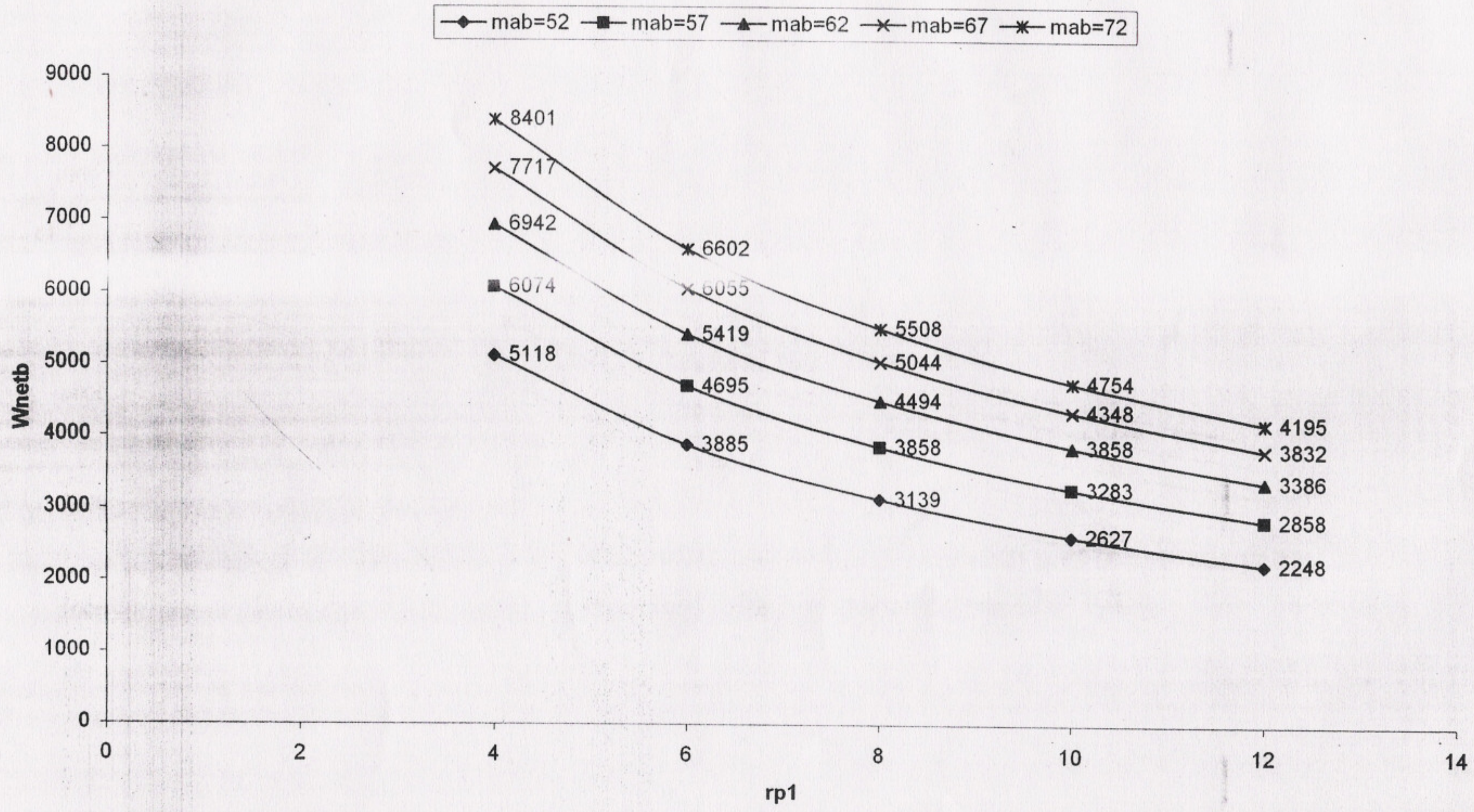




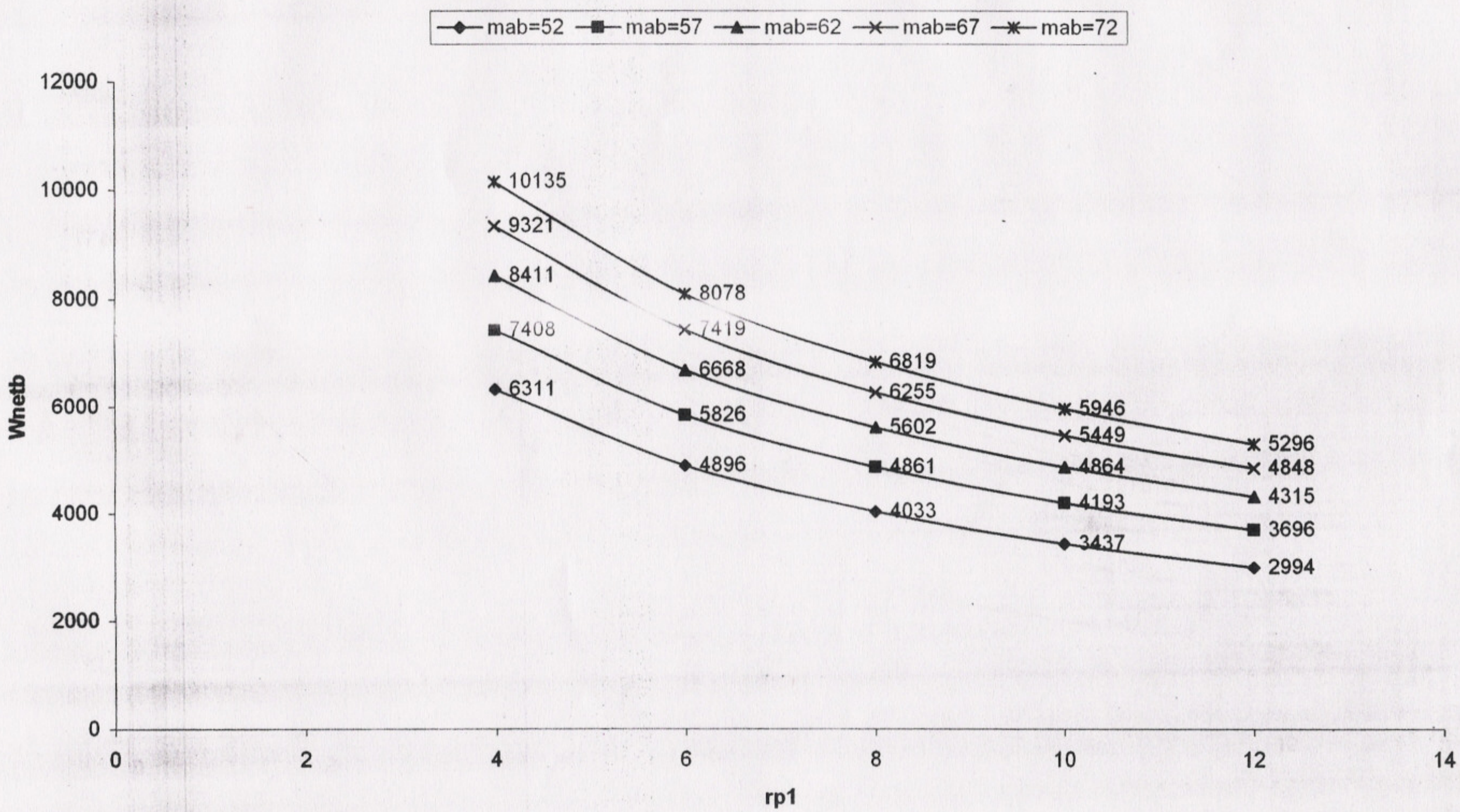
Varition of net work of bottoming cycle w.r.t pressure ratio of topping cycle of ABC "rp1" with no intercooler at t3t=1100
mab=52
mab=57
mab=62
mab=67
mab=72
6000
5000
4000
3000
2000
1000
0
Wnetb
0
2
4
6
8
10
12
14
rp1
5258
4814
4283
3668
2969
3961
3617
3189
2680
2091
3188
2903
2539
2094
1571
2664
2421
2099
1699
1222
2281
2068
1778
1411
968


Varition of net work of bottoming cycle w.r.t. pressure ratio of topping cycle of ABC " rp1" with no intercooler at t3t=1200
mab=52
mab=57
mab=62
mab=67
mab=72
Wnetb
rp1
0
1000
2000
3000
4000
5000
6000
7000
8000
0
2
4
6
8
10
12
14
6771
6211
5562
4824
4000
5225
4783
4256
3643
2947
4294
3923
3469
2933
2315
3656
3335
2932
2449
1885
3186
2902
2537
2093
1570

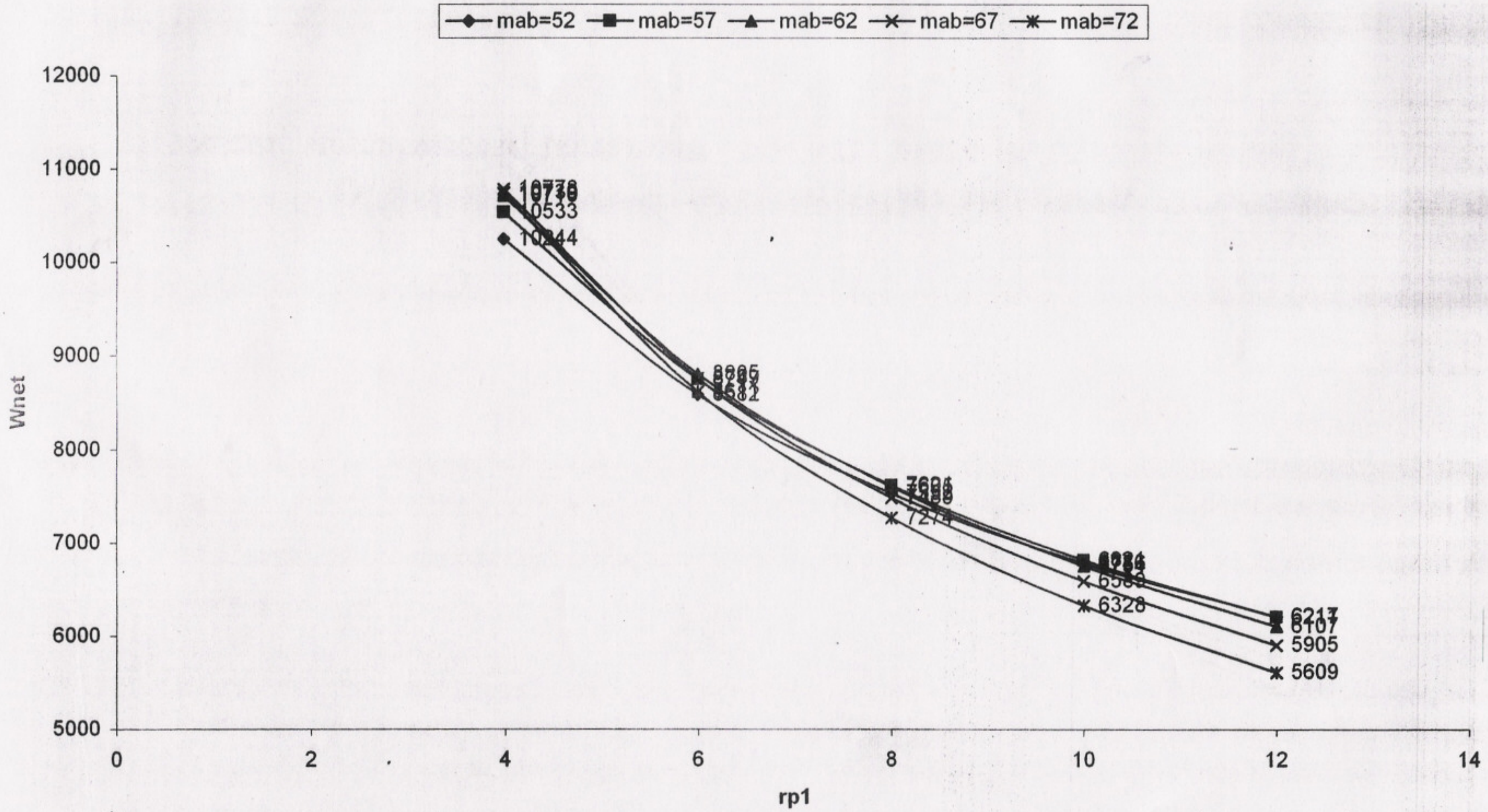
varition of net work of bottoming cycle w.r.t pressure ratio of topping cycle of ABC" rp1" with no intercooler at t3t=1300



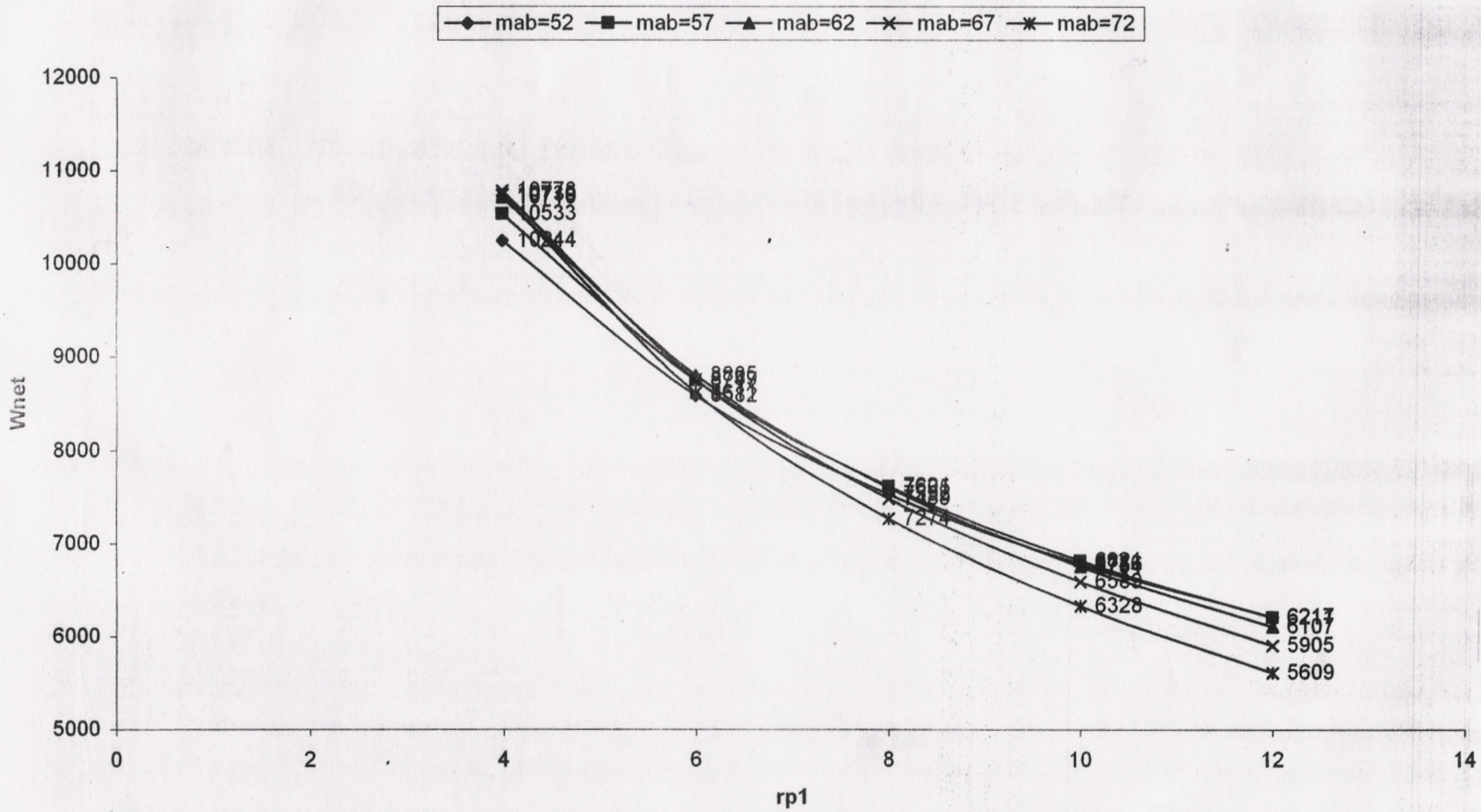
varition of net work of bottoming cycle w.r.t pressure ratio of topping cycle " rp1" with no intercooler at t3t=1400



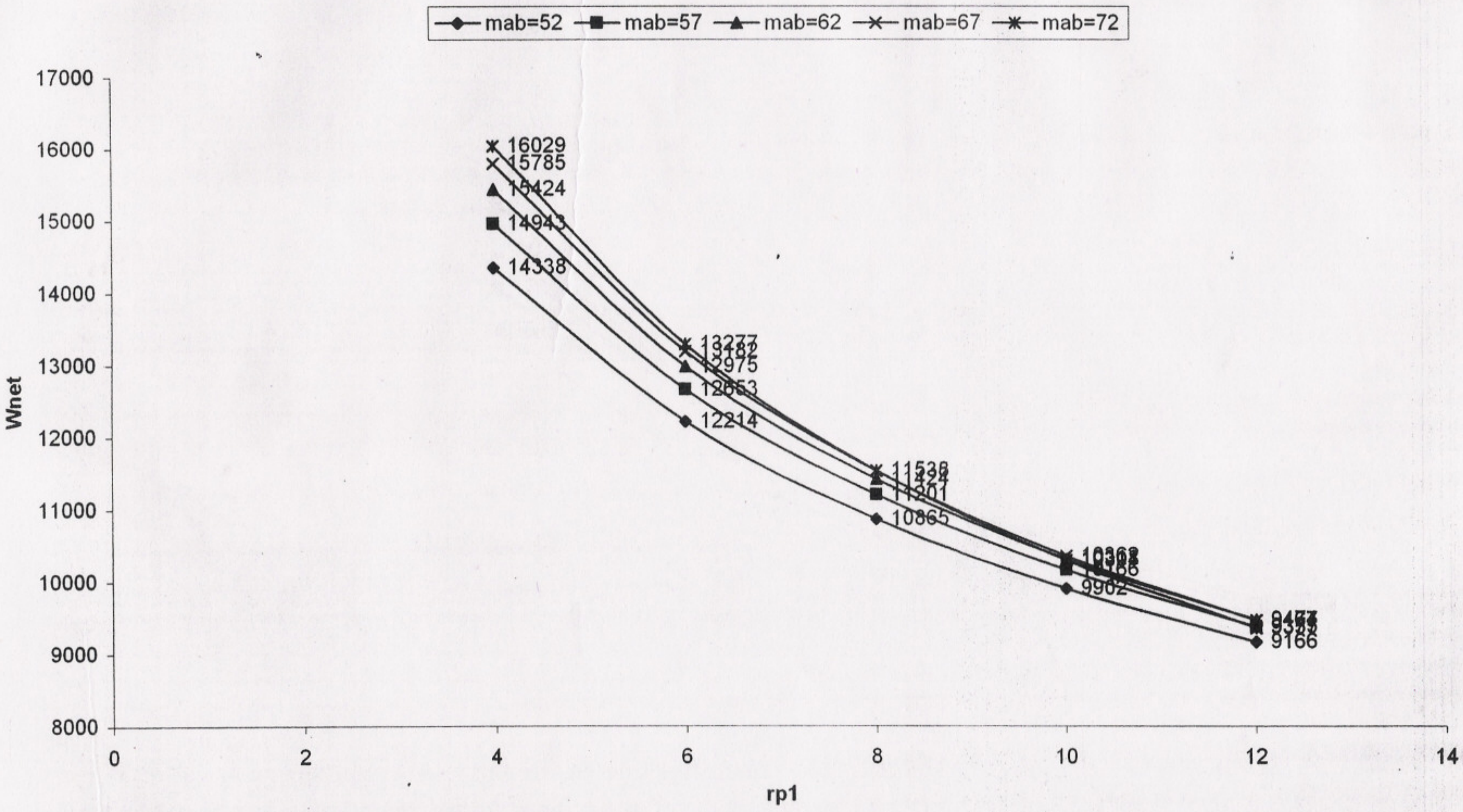
varition of net work of bottoming cycle w.r.tpressure ratio of topping cycle of ABC " rp1" at t3t=1000 for two intercooler



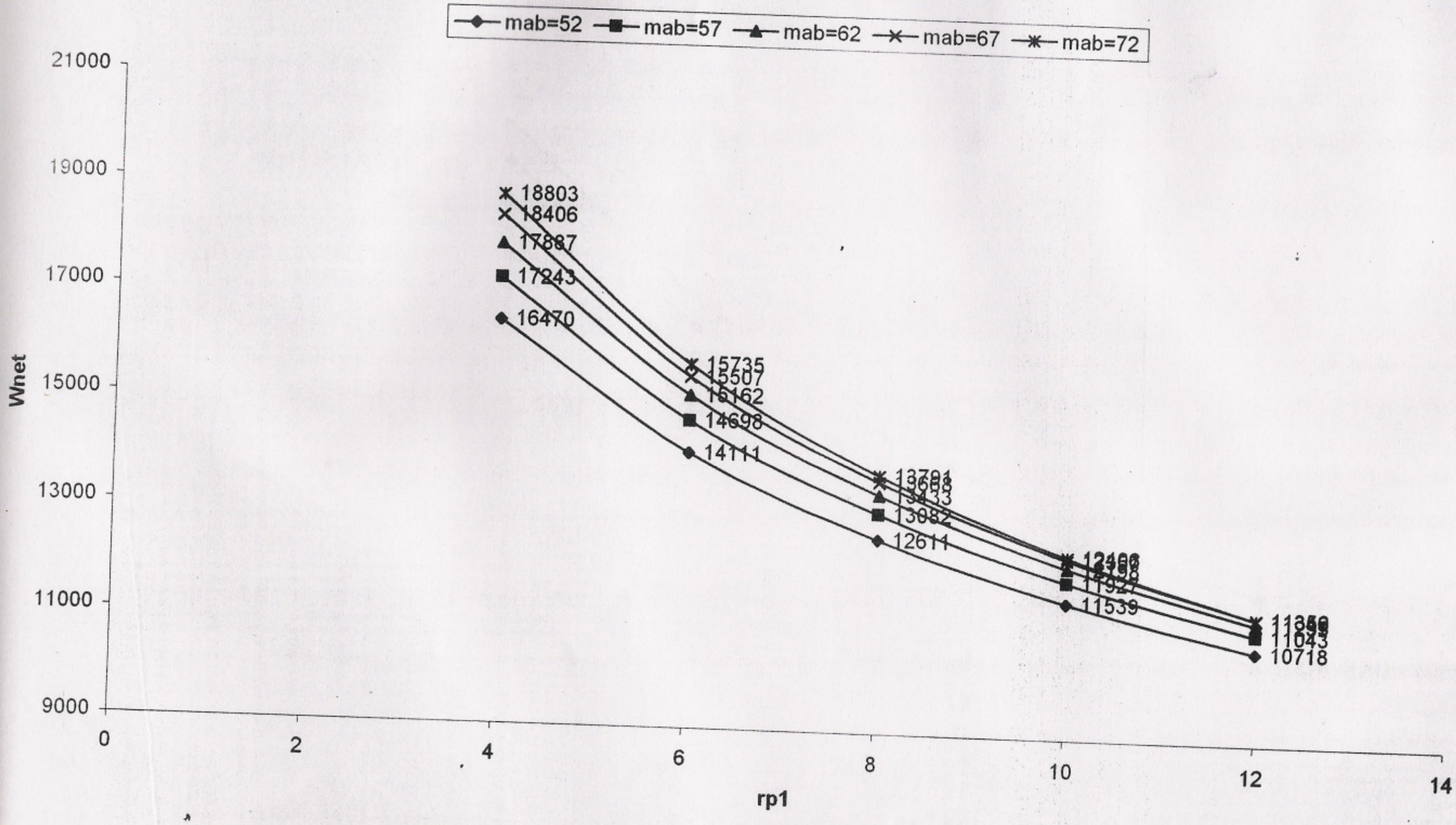
varition of net work of bottoming cycle w.r.tpressure ratio of topping cycle of ABC " rp1" at t3t=1000 for two intercooler



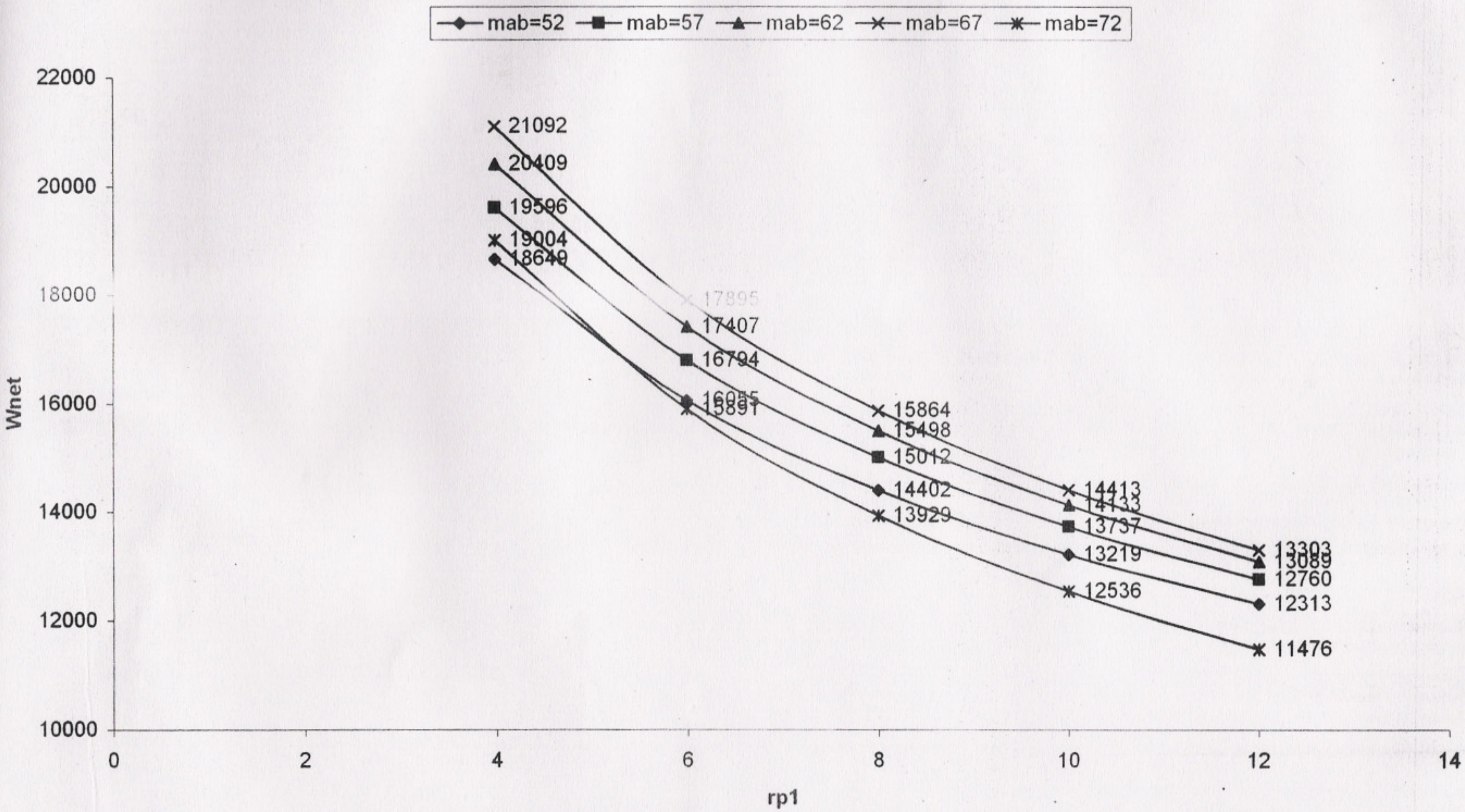
varition of net work of bottoming cycle w.r.t. pressure ratio of topping cycle of ABC " rp1" at t3t=1200 for two intercooler



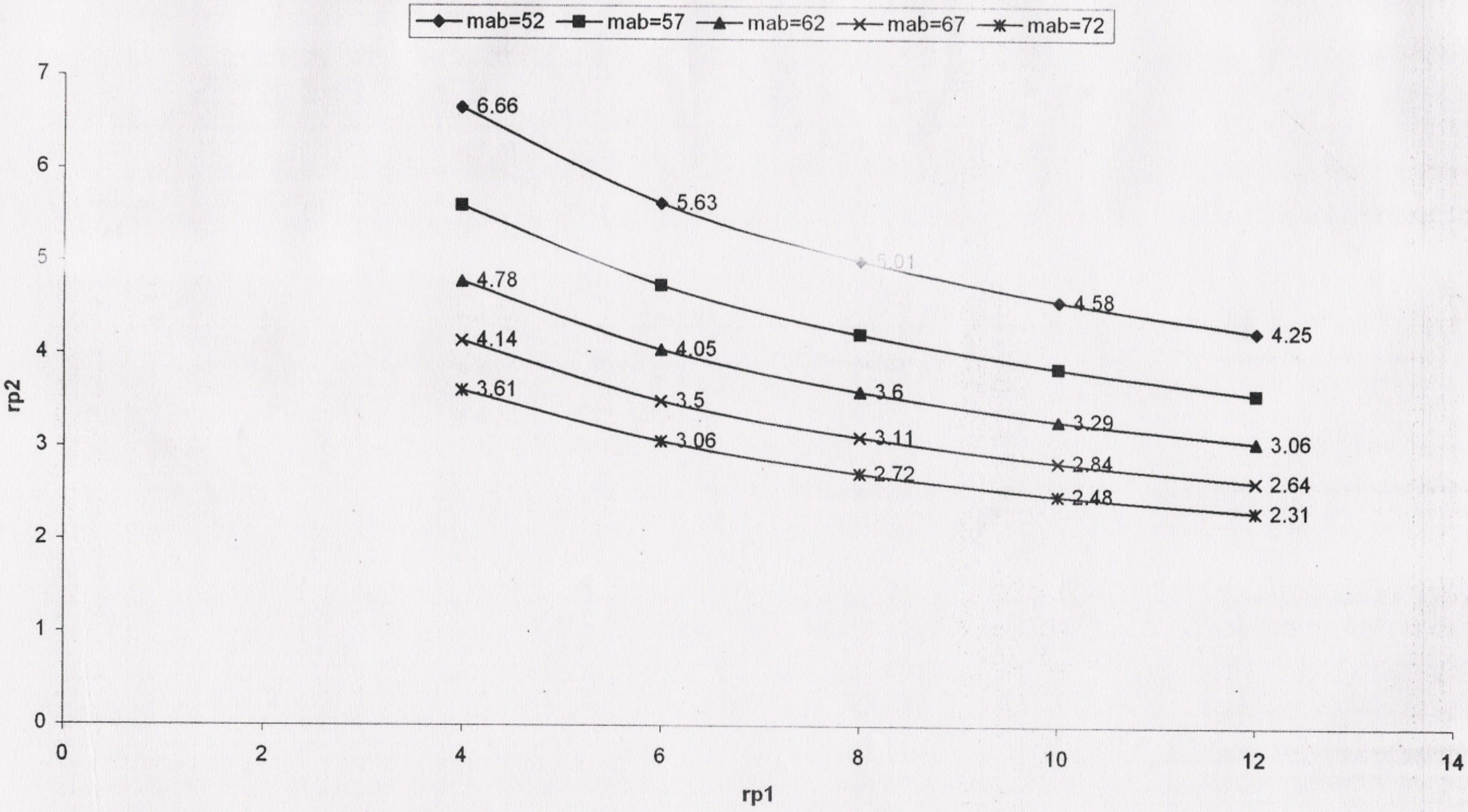
varition of net work of bottoming cycle w.r.t pressura ratio of topping cycle of ABC rp1 at t3t=1300 for two intercooler



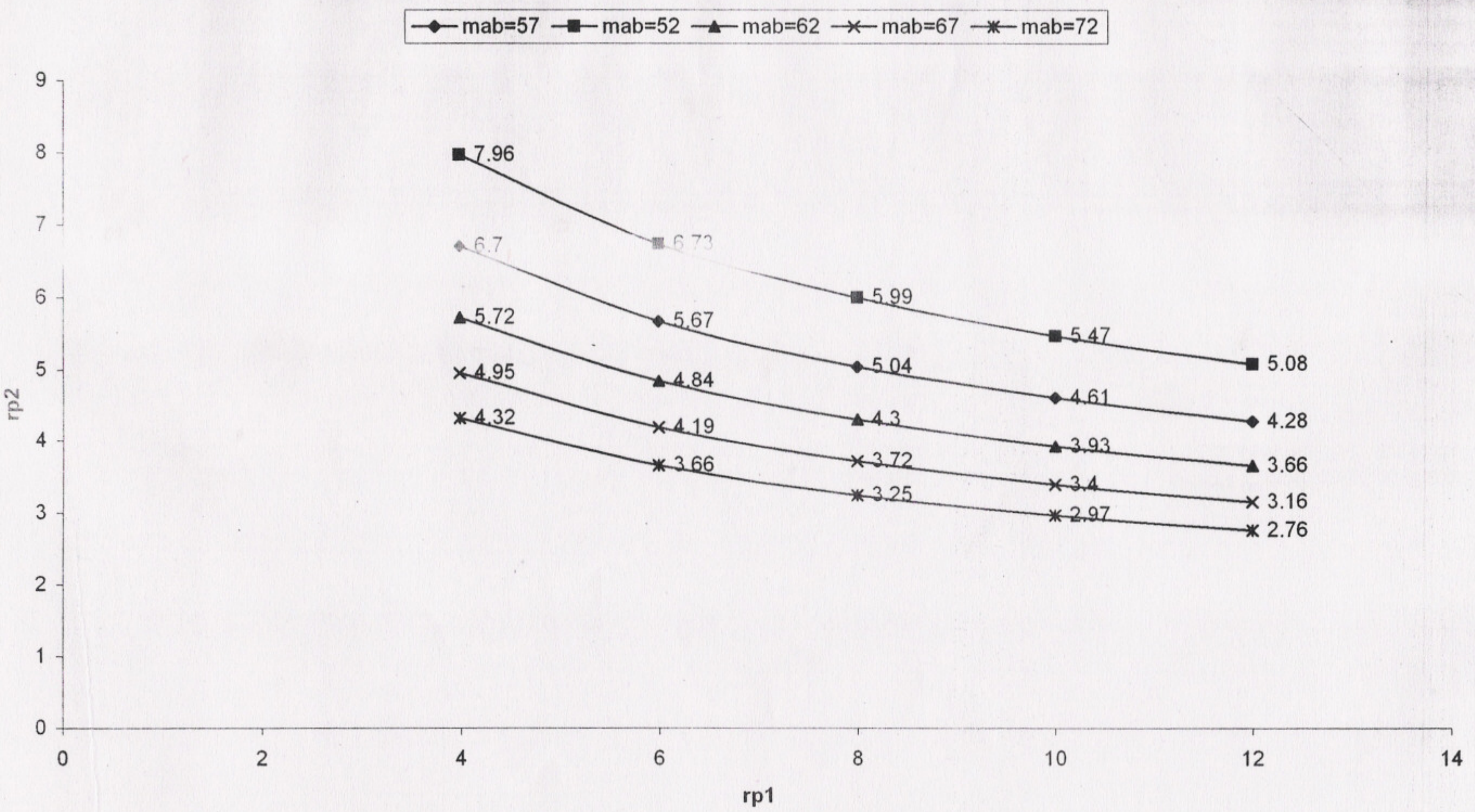
varition of net work of bottoming cycle w.r.t pressure ratio of topping cycle of ABC " rp1" at t3t=1400 for two intercooler



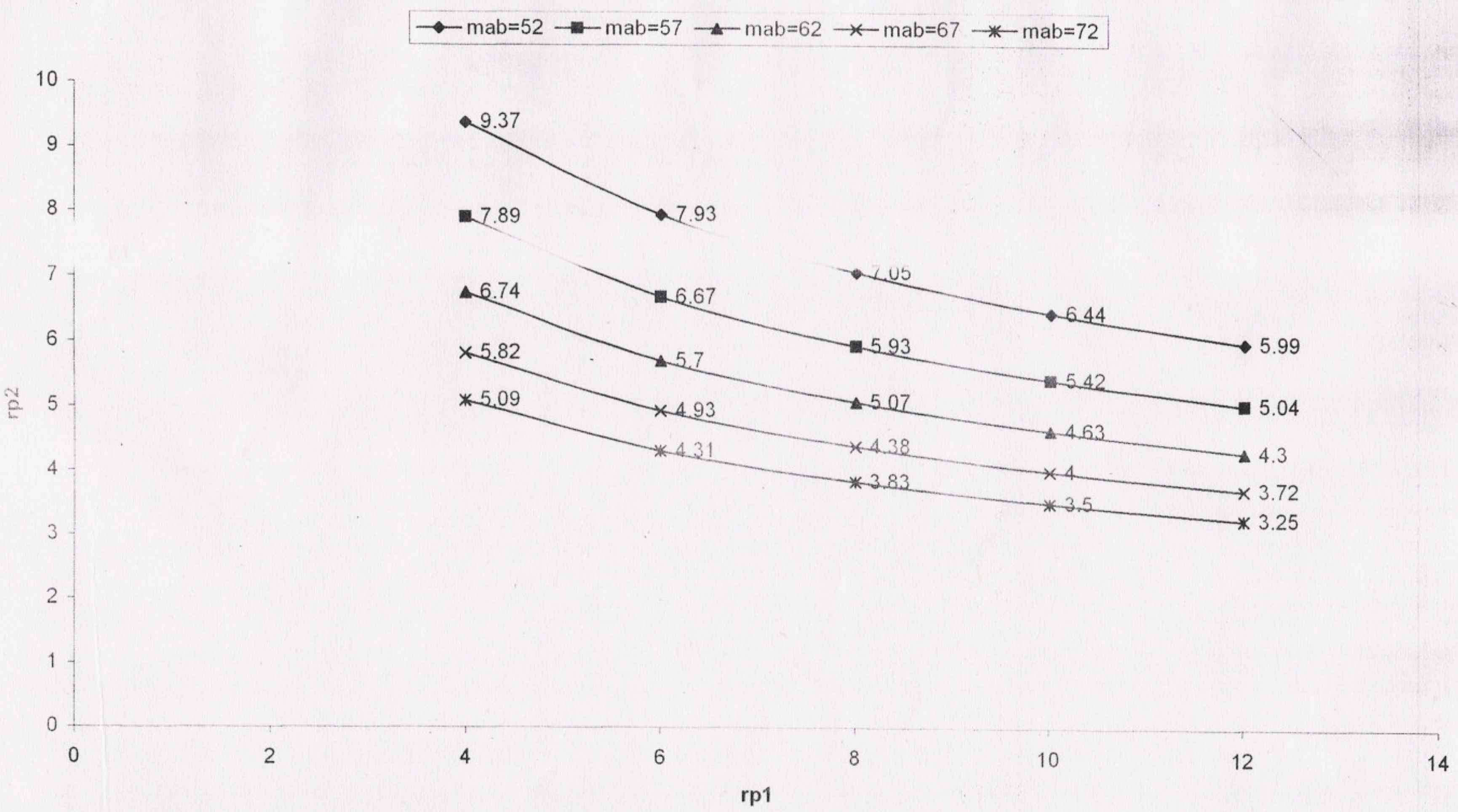
varition of pressure ratio of bottoming cycle "rp2" w.r.t pressure ratio of topping cycle of ABC "rp1" at t3t=1000 for two inter cooler



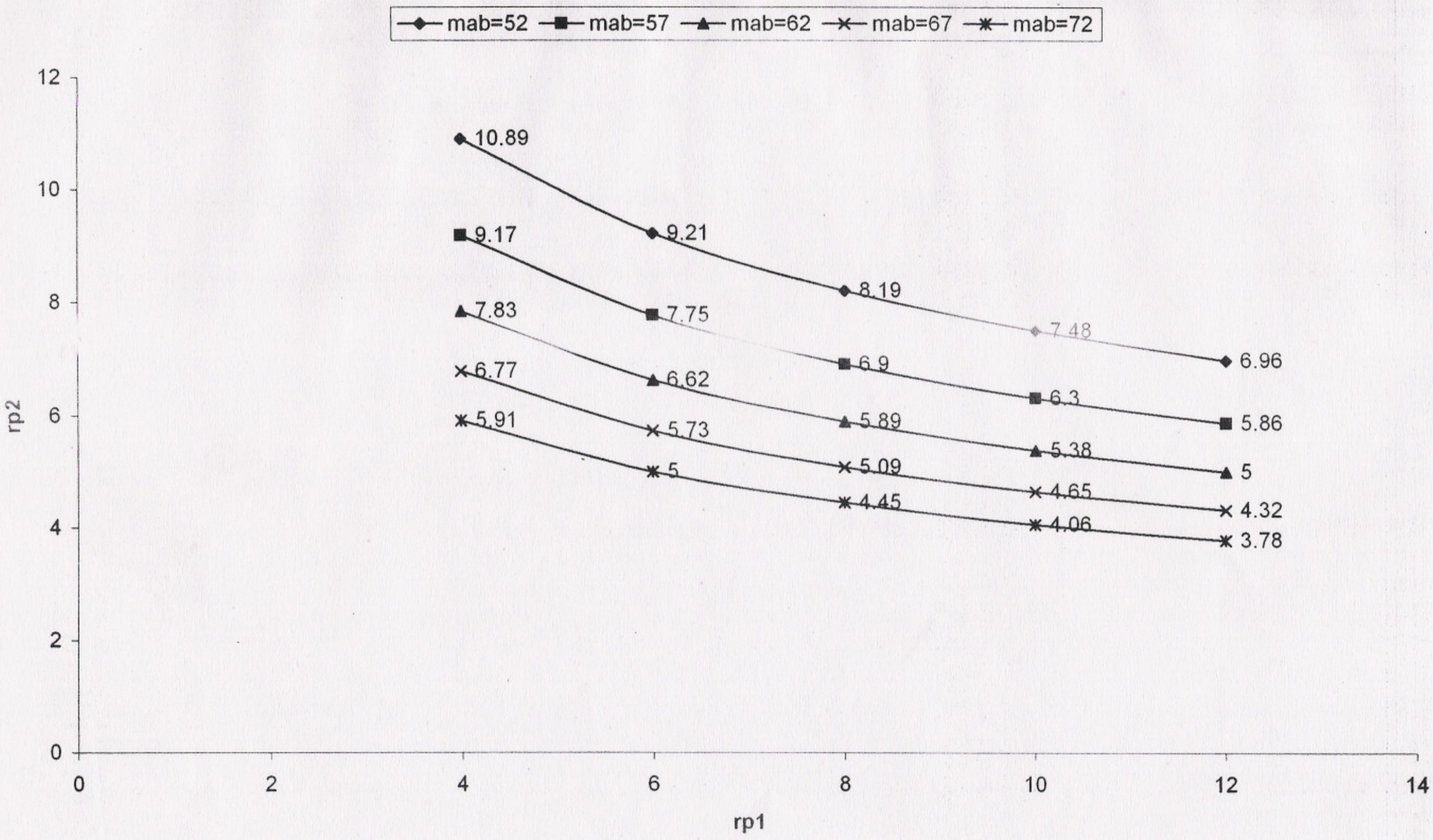
varition of pressure ratio of bottoming cycle "rp2" w.r.t. pressure ratio of topping cycle of ABC "rp1" at t3t=1100 for two intercooler



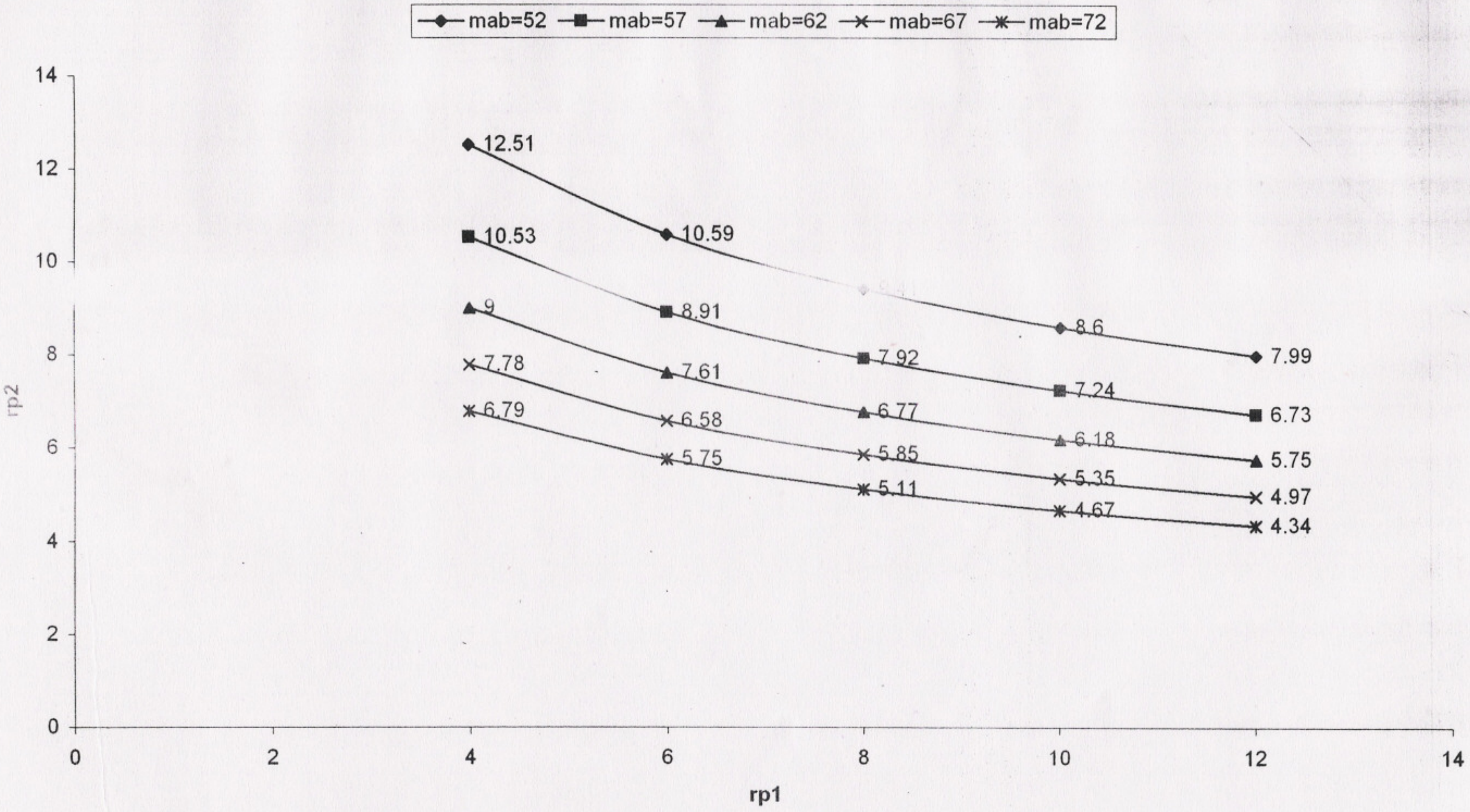
varition of pressure ratio of bottoming cycle "rp2" w.r.t pressure ratio of topping cycle of ABC "rp1" at t3t=1200 for two intercooler



varition of pressure ratio of bottoming cycle" rp2" w.r.t pressure ratio of topping cycle of ABC "rp1" at t3t=1300 for two intercooler



varition of pressure ratio of bottoming cycle "rp2" w.r.t pressure ratio of topping cycle of ABC "rp1" att3t=1400 for two intercooler



Discussion on results.

A) **Net work of combined cycle**

- The network of combined cycle increases as increase in mass flow of ABC for every particular value of pressure ratio of topping cycle (rp_1) of ABC.

- The network of combined cycle increases as increase in turbine inlet temperature of topping cycle, t3t for every particular value of mass flow rate of ABC and pressure ratio of topping cycle (rp_1) of ABC.

- The network of combined decreases with increases in pressure ratio of topping cycle (rp_1) of ABC whatever is the value of mass flow as well as turbine inlet temperature of topping cycle t3t of ABC.

- For any particular value of pressure ratio of topping (rp_1) of ABC and turbine inlet temperature, t3t respectively the value of network is min. For one intercooler and max. for two intercooler.

- For any particular value of mass flow rate of ABC and turbine inlet temperature t3t , the max value of net work of combined cycle is found when the pressure ratio of topping cycle (rp_1) of ABC is min. (here in this case at $rp_1 = 4$).

B) **Net work of bottoming cycle**

- The network of bottoming cycle increases as increase in mass flow of ABC for every particular value of pressure ratio of topping cycle (rp_1) of ABC.

- The network of bottoming cycle increases as increase in turbine inlet temperature of topping cycle, t3t for every particular value of mass flow rate of ABC and pressure ratio of topping cycle (rp_1) of ABC.

- The network of bottoming decreases with increases in pressure ratio of topping cycle (rp_1) of ABC whatever is the value of mass flow as well as turbine inlet temperature of topping cycle t3t of ABC.

- For any particular value of pressure ratio of topping (rp_1) of ABC and turbine inlet temperature, t3t respectively the value of network of bottoming cycle increases as the no. of intercooler increases.

- For any particular value of mass flow rate of ABC and turbine inlet temperature t3t , the max value of net work of combined cycle is found when the pressure ratio of topping cycle (rp_1) of ABC is min. (here in this case at $rp_1 = 4$).

C) Efficiency of combined cycle

- The efficiency of combined cycle increases as increase in mass flow of ABC for every particular value of pressure ratio of topping cycle (rp_1) of ABC.

- The efficiency of combined cycle increases as increase in turbine inlet temperature of topping cycle, t3t for every particular value of mass flow rate of ABC and pressure ratio of topping cycle (rp_1) of ABC.

- The efficiency of combined increases with increases in pressure ratio of topping cycle (rp_1) of ABC whatever is the value of mass flow as well as turbine inlet temperature of topping cycle t3t of ABC.

- For any particular value of pressure ratio of topping (rp_1) of ABC and turbine inlet temperature, t3t respectively the value of efficiency increases as the no. of intercooler increases.

- For any particular value of mass flow rate of ABC and turbine inlet temperature t3t , the max value of efficiency of combined cycle is found when the pressure ratio of topping cycle (rp_1) of ABC is max. (here in this case at $rp_1 = 12$).

D) Pressure ratio of bottoming cycle (rp_2)

- The pressure ratio of bottoming cycle decreases with increase in mass flow rate of ABC for any particular value of pressure ratio of topping cycle (rp1) of ABC.

- The pressure ratio of bottoming cycle increases with increase in turbine inlet temperature t3t of ABC for every particular value of mass flow rate of ABC.

- The pressure ratio of bottoming cycle decreases with increase in pressure ratio of topping cycle (rp1) of ABC.