## Results for MINSUM\_3 (mTSP) Keld Helsgaun, November 19, 2017

Instance	LKH-3
a280	2645
ali535	203044
att48	11014
att532	28259
bayg29	1718
bays29	2139
berlin52	7735
bier127	119163
brazil58	26538
brd14051	469858
brg180	1980
burma14	3547
ch130	6296
ch150	6571
d198	20351
d493	42623
d657	54303
d1291	55970
d1655	67987
d2103	84964
d15112	1582808
d18512	647847
dantzig42	703
dsj1000	18688950
eil51	443
eil76	555
eil101	646
fl417	11941
f11400	21015
fl1577	22317
fl3795	30037
fnl4461	183259
fri26	1214
gil262	2441
gr17	2322
gr21	3022
gr24	1523
gr48	5333
gr96	57922
gr120	7196
gr137	73410

gr202	45838
gr229	137303
gr431	177092
gr666	300558
hk48	12107
kroA100	22059
kroB100	22472
kroC100	21212
kroD100	21796
kroE100	22348
kroA150	26943
kroB150	26476
kroA200	29538
kroB200	29767
lin105	14741
lin318	42391
linhp318	41707
nrw1379	56847
p654	36890
pa561	2797
pcb442	50966
pcb1173	57133
pcb3038	138675
pla7397	23317022
pla7397 pla33810	23317022 66445846
pla33810	66445846
pla33810 pla85900	66445846 142842479
pla33810 pla85900 pr76	66445846 142842479 111056
pla33810 pla85900 pr76 pr107	66445846 142842479 111056 44869
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144	66445846 142842479 111056 44869 59979 98629 59444
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152	66445846 142842479 111056 44869 59979 98629
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226	66445846 142842479 111056 44869 59979 98629 59444
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr264	66445846 142842479 111056 44869 59979 98629 59444 75893
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr264 pr299	66445846 142842479 111056 44869 59979 98629 59444 75893 84109
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr226 pr264 pr299 pr439	66445846 142842479 111056 44869 59979 98629 59444 75893 84109 49704 48789 108044
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr264 pr299 pr439 pr1002	66445846 142842479 111056 44869 59979 98629 59444 75893 84109 49704 48789 108044 264040
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr264 pr299 pr439 pr1002 pr2392	66445846 142842479 111056 44869 59979 98629 59444 75893 84109 49704 48789 108044 264040 380379
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr264 pr299 pr439 pr1002 pr2392 rat99	66445846 142842479 111056 44869 59979 98629 59444 75893 84109 49704 48789 108044 264040 380379 1269
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr264 pr299 pr439 pr1002 pr2392 rat99 rat195	66445846 142842479 111056 44869 59979 98629 59444 75893 84109 49704 48789 108044 264040 380379 1269 2381
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr264 pr299 pr439 pr1002 pr2392 rat99 rat195 rat575	66445846 142842479 111056 44869 59979 98629 59444 75893 84109 49704 48789 108044 264040 380379 1269 2381 6802
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr264 pr299 pr439 pr1002 pr2392 rat99 rat195 rat575 rat783	66445846 142842479 111056 44869 59979 98629 59444 75893 84109 49704 48789 108044 264040 380379 1269 2381 6802 8844
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr226 pr264 pr299 pr439 pr1002 pr2392 rat99 rat195 rat575 rat783 rd100	66445846 142842479 111056 44869 59979 98629 59444 75893 84109 49704 48789 108044 264040 380379 1269 2381 6802 8844 8012
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr264 pr299 pr439 pr1002 pr2392 rat99 rat195 rat575 rat783 rd100 rd400	66445846 142842479 111056 44869 59979 98629 59444 75893 84109 49704 48789 108044 264040 380379 1269 2381 6802 8844 8012 15328
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr264 pr299 pr439 pr1002 pr2392 rat99 rat195 rat575 rat783 rd100 rd400 rl1304	66445846 142842479 111056 44869 59979 98629 59444 75893 84109 49704 48789 108044 264040 380379 1269 2381 6802 8844 8012 15328 253840
pla33810 pla85900 pr76 pr107 pr124 pr136 pr144 pr152 pr226 pr264 pr299 pr439 pr1002 pr2392 rat99 rat195 rat575 rat783 rd100 rd400	66445846 142842479 111056 44869 59979 98629 59444 75893 84109 49704 48789 108044 264040 380379 1269 2381 6802 8844 8012 15328

rl1889 317146 rl5915 567177 rl5934 557854 rl11849 926777 si175 21717 si535 48897 si1032 92897 st70 6897 swiss42 1333
rl5934 557854 rl11849 926775 si175 21717 si535 48895 si1032 92896 st70 688
rl11849 926773 si175 21717 si535 48893 si1032 92893 st70 688
si175     2171       si535     4889       si1032     9289       st70     689
si535     4889       si1032     9289       st70     689
si1032 92899 st70 689
st70 689
swiss42 1333
ts225 12864.
tsp225 398
u159 4384
u574 36983
u724 4250
u1060 224590
u1432 15324
u1817 5761
u2152 6445
u2319 23455
ulysses16 7112
ulysses22 7259
usa13509 2011584
vm1084 24034:
vm1748 33955