1 D:\Python\Python\setroute\python.exe "D:\Python\Pycharm\setroute\PyCharm Community Edition 2021.2.3\plugins\python-ce\helpers\pydev\pydevconsole.py" --mode=client --port=34264

2

3 import sys; print('Python %s on %s' % (sys.version, sys.platform))

4 sys.path.extend(['E:\\1 □□□□\\3 □□□□□\\1 □□□□□□□\\1 □□□□□□□□□□\\1_□□□□□□_□□□□\\1_LW _□□□□1\\4 □□□□□\\3 python_code\\9 Code for this paper', 'E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□□/1_□□□□□□_□□□□/1_LW _□□□□1/4 □□□□/3 python_code/9 Code for this paper'])

5

6 PyDev console: starting.

7

8 Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32

9 >>> runfile('E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□□/1_□□□□□□_□□□□/1_LW _□□□□1/4 □□□□/3 python_code/9 Code for this paper/main_RO_CCG_ExtendedByMe.py', wdir='E:/1 □□□□/3 □□□□□/1 □□□□□□/1 □□□□□□□□□/1_□□□□□□_□□□□/1_LW _□□□□1/4 □□□□/3 python_code/9 Code for this paper')

10 Backend TkAgg is interactive backend. Turning interactive mode on.

11 Waiting 5s......

12

13 Optimize the ./R_10_4.xlsx instance by ECCG

14

15   Master protblem status = 2 , is Optimal and MP obj = 412.0

16 The initial lb = -inf   ub = inf

17

18 The current iteration cnt = 0

19   The SP model was solved Optimal 2 and SPObj = 412.0

20   Deterministic Sub problem Status= 2 , is Optimal

21   Master protblem status = 2 , is Optimal

22   lb = 753.0   ub = 753.0

23   MPObj = 753.0   MP_delete_Hua_Obj = 436.0   Hua = 317.0   SPObj = 412.0   Deter_SP_Obj = 317.0

24

25 ub - lb = 0.0

26

27 Iteration cycle stopped by termination criterion 1: Because ub - lb <= eps, the iteration stop, and cnt = 0

28   i: 0.0 l_i: 6.0   p_i: 8.0 al_i: 21.0   sol_a_i: 21.0 sol_g_i: 0.0   d_i: 36.0   sol_taoi: 21.0   sol_deltai: 36.0 sol_deltai - sol_taoi: 15.0 sol_taoP: 21.0   sol_deltaP: 24.0   sol_deltaP - sol_taoP: 3.0 cl_i: 3826582.0   sol_c_i: 3826582.0   sol_gp_i: 0.0 total work: 5009236.0   wasted work: 4.485799032028038

29   i: 1.0 l_i: 7.0   p_i: 7.0 al_i: 39.0   sol_a_i: 39.0 sol_g_i: 0.0   d_i: 49.0   sol_taoi: 39.0   sol_deltai: 49.0 sol_deltai - sol_taoi: 10.0 sol_taoP: 39.0   sol_deltaP: 41.0   sol_deltaP - sol_taoP: 2.0 cl_i: 2443825.0   sol_c_i: 2443825.0   sol_gp_i: 0.0 total work: 3163728.0   wasted work: 2.7305874588460197

30   i: 2.0 l_i: 4.0   p_i: 0.0 al_i: 10.0   sol_a_i: 10.0 sol_g_i: 0.0   d_i: 19.0   sol_taoi: 10.0   sol_deltai: 19.0 sol_deltai - sol_taoi: 9.0 sol_taoP: 10.0   sol_deltaP: 14.0   sol_deltaP - sol_taoP: 4.0 cl_i: 2253819.0   sol_c_i: 2253819.0   sol_gp_i: 0.0 total work: 2900084.0   wasted work: 2.4512789974359364

31   i: 3.0 l_i: 6.0   p_i: 14.0 al_i: 10.0   sol_a_i: 10.0 sol_g_i: 0.0   d_i: 36.0   sol_taoi: 10.0   sol_deltai: 36.0 sol_deltai - sol_taoi: 26.0 sol_taoP : 10.0 sol_deltaP: 15.0   sol_deltaP - sol_taoP: 5.0 cl_i: 6632614.0   sol_c_i: 6632614.0   sol_gp_i: 0.0 total work: 7513854.0   wasted work: 3.342537664426272

32   i: 4.0 l_i: 7.0   p_i: 4.0 al_i: 8.0   sol_a_i: 8.0   sol_g_i: 0.0   d_i: 18.0   sol_taoi: 8.0   sol_deltai: 18.0 sol_deltai - sol_taoi: 10.0 sol_taoP: 8.0   sol_deltaP: 11.0   sol_deltaP - sol_taoP: 3.0 cl_i: 2539421.0   sol_c_i: 2539421.0   sol_gp_i: 0.0 total work: 2636440.0   wasted work: 0.36799244435678413

33   i: 5.0 l_i: 7.0   p_i: 20.0 al_i: 4.0   sol_a_i: 6.0   sol_g_i: 0.4   d_i: 23.0   sol_taoi: 6.0   sol_deltai: 20.0 sol_deltai - sol_taoi: 14.0 sol_taoP: 6.0   sol_deltaP: 8.0   sol_deltaP - sol_taoP: 2.0 cl_i: 3672683.0   sol_c_i: 3672683.0   sol_gp_i: 0.0 total work: 4745592.0   wasted work: 4.069536951343478

34   i: 6.0 l_i: 7.0   p_i: 20.0 al_i: 27.0   sol_a_i: 27.0 sol_g_i: 0.0   d_i: 51.0   sol_taoi: 27.0   sol_deltai: 49.0 sol_deltai - sol_taoi: 22.0 sol_taoP : 27.0 sol_deltaP: 30.0   sol_deltaP - sol_taoP: 3.0 cl_i: 5785684.0   sol_c_i: 6840260.0   sol_gp_i: 1.0 total work: 6854744.0   wasted work: 0.05493771904537938

35   i: 7.0 l_i: 6.0   p_i: -0.0 al_i: 23.0   sol_a_i: 33.0 sol_g_i: 1.0   d_i: 48.0   sol_taoi: 33.0   sol_deltai: 57.0 sol_deltai - sol_taoi: 24.0 sol_taoP : 33.0 sol_deltaP: 40.0   sol_deltaP - sol_taoP: 7.0 cl_i: 6213808.0   sol_c_i: 6854744.0   sol_gp_i: 0.607766533659025 total work: 6854744.0   wasted work: 0.0

36   i: 8.0 l_i: 6.0   p_i: -0.0 al_i: 58.0   sol_a_i: 65.0 sol_g_i: 1.0   d_i: 73.0   sol_taoi: 65.0   sol_deltai: 76.0 sol_deltai - sol_taoi: 11.0 sol_taoP : 65.0 sol_deltaP: 69.0   sol_deltaP - sol_taoP: 4.0 cl_i: 2682121.0   sol_c_i: 3427372.0   sol_gp_i: 0.4038188943098594   total work: 3427372.0   wasted work: 0.0

37   i: 9.0 l_i: 4.0   p_i: 6.0 al_i: 46.0   sol_a_i: 50.2 sol_g_i: 0.6   d_i: 77.0   sol_taoi: 51.0   sol_deltai: 76.0 sol_deltai - sol_taoi: 25.0 sol_taoP: 51.0   sol_deltaP: 65.0   sol_deltaP - sol_taoP: 14.0   cl_i: 6550770.0   sol_c_i: 7071949.142857143   sol_gp_i: 0.9884145720311164   total work: 7118388.0   wasted work: 0.17614228711010785

38 Time: 135.000000

39

40

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42