```
this paper\Scripts\python.exe" "D:\Python\Pycharm\setroute\PyCharm Community Edition 2021.2.3\plugins\python-ce\helpers\pydev\pydevconsole.py" --mode=
   client --port=39456
 3
   import sys; print('Python %s on %s' % (sys.version, sys.platform))
   sys.path.extend(|'E:\\1 000\\3 0000\\1 00000\\1 000000\\1 00000\\1 LW 0000\\4 0000\\3 python code\\9 Code for this
   6
   PyDev console: starting.
   Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit (AMD64)] on win32
 8
   >>> runfile('E:/1 000/3 0000/1 00000/1 000000/1 000000/1 000000/1 LW 000/3 python_code/9 Code for this paper/main_RO_TWS.py', wdir='E:/1 0000/3 0000/1 000000/1 000000/1 000000/1 000000/1 LW 000/3 python_code/9 Code for
   this paper')
   Backend TkAgg is interactive backend. Turning interactive mode on.
   Waiting 5s.....
   Set parameter MIPGap to value 1e-10
12
   Gurobi Optimizer version 10.0.2 build v10.0.2rc0 (win64)
13
15
   CPU model: 11th Gen Intel(R) Core(TM) i7-11370H @ 3.30GHz, instruction set [SSE2|AVX|AVX2|AVX512]
   Thread count: 4 physical cores, 8 logical processors, using up to 8 threads
16
17
   Optimize a model with 599385 rows, 52642 columns and 1660437 nonzeros
19
   Model fingerprint: 0xa7479769
   Variable types: 1 continuous, 52641 integer (52605 binary)
20
21
   Coefficient statistics:
    Matrix range [1e+00, 1e+10]
    Objective range [1e+00, 2e+01]
23
24
    Bounds range [1e+00, 1e+00]
                  [1e+00, 2e+10]
    RHS range
26
   Warning: Model contains large matrix coefficients
27
   Warning: Model contains large rhs
28
        Consider reformulating model or setting NumericFocus parameter
29
        to avoid numerical issues.
30
   Presolve removed 370756 rows and 24895 columns (presolve time = 5s) ...
   Presolve removed 530972 rows and 37088 columns
31
   Presolve time: 9.89s
   Presolved: 68413 rows, 15554 columns, 230775 nonzeros
34
   Variable types: 0 continuous, 15554 integer (15527 binary)
35
   Deterministic concurrent LP optimizer: primal and dual simplex (primal and dual model)
37
   Showing first log only...
38
39
   Root relaxation presolved: 15554 rows, 83967 columns, 246329 nonzeros
40
41
42
   Root simplex log...
43
44
   Iteration Objective
                        Primal Inf. Dual Inf.
       0 6.4700000e+02 0.000000e+00 9.240000e+02
45
                                                     10s
46
   Concurrent spin time: 0.00s
48
   Solved with dual simplex (primal model)
49
50
   Root relaxation: objective 6.470000e+02, 2678 iterations, 0.35 seconds (0.31 work units)
51
52
     Nodes | Current Node | Objective Bounds
                                                 Work
53
    Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time
54
55
         0 647.00000 0 12
                                 - 647.00000
                      1527.0000000 647.00000 57.6% - 11s
56 H 0 0
57
   Н
      0
                      947.0000000 647.00000 31.7%
                                                   - 11s
58 H 0
                      787.0000000 647.00000 17.8%
59
     0 0 647.00000 0 68 787.00000 647.00000 17.8% - 12s
                      747.0000000 \ 647.00000 \ 13.4\% \quad - \ 12s
60 H 0 0
                       727.0000000 647.00000 11.0%
61 H 0 0
     0 0 647.00000 0 67 727.00000 647.00000 11.0% - 12s
62
63 H 0 0
                      707.0000000 647.00000 8.49% - 13s
64 H 0
                       647.0000000 647.00000 0.00%
66 Cutting planes:
67
    Gomory: 3
68
    Cover: 136
69
    Implied bound: 504
70
    Clique: 3
    MIR: 18
    StrongCG: 25
73
    GUB cover: 6
74
    RLT: 14
75
    Relax-and-lift: 2
   Explored 1 nodes (9739 simplex iterations) in 14.02 seconds (20.47 work units)
78
   Thread count was 8 (of 8 available processors)
```

```
80 Solution count 7: 647 707 727 ... 1527
 81
    Optimal solution found (tolerance 1.00e-10)
 82
 83
    Best objective 6.470000000000e+02, best bound 6.47000000000e+02, gap 0.0000%
    Set parameter MIPGap to value 1e-08
 85 Gurobi Optimizer version 10.0.2 build v10.0.2rc0 (win64)
 86
 87 CPU model: 11th Gen Intel(R) Core(TM) i7-11370H @ 3.30GHz, instruction set [SSE2|AVX|AVX2|AVX512]
 88
    Thread count: 4 physical cores, 8 logical processors, using up to 8 threads
 89
 90 Optimize a model with 536302 rows, 14427 columns and 1098833 nonzeros
    Model fingerprint: 0x0004302a
 92 Variable types: 36 continuous, 14391 integer (8316 binary)
 93 Coefficient statistics:
     Matrix range [1e-01, 1e+10]
 94
     Objective range [6e-05, 5e+01]
 96
     Bounds range [1e+00, 1e+00]
     RHS range
                    [8e-01, 1e+10]
 97
 98 Warning: Model contains large matrix coefficients
    Warning: Model contains large rhs
100
         Consider reformulating model or setting NumericFocus parameter
         to avoid numerical issues.
101
102 Presolve removed 533304 rows and 13361 columns
103 Presolve time: 0.40s
104 Presolved: 2998 rows, 1066 columns, 7940 nonzeros
105 Variable types: 8 continuous, 1058 integer (626 binary)
106 Found heuristic solution: objective 3251.8528892
107 Found heuristic solution: objective 3465.7100450
108
109 Root relaxation: objective 4.383942e+03, 1006 iterations, 0.01 seconds (0.01 work units)
110
       Nodes | Current Node | Objective Bounds
                                                         Work
111
112
     Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time
113
114
       0 0 4383.94217 0 22 3465.71005 4383.94217 26.5%
                        4358.0671749 4383.94217 0.59% - 0s
115 H 0 0
116 H 0 0
                        4378.0671749 4383.94217 0.13%
       0 0 4383.66052 0 22 4378.06717 4383.66052 0.13% -
117
       0 0 4383.66052 0 18 4378.06717 4383.66052 0.13% -
118
                                                                  0s
119
       0 0 4383.66052 0 9 4378.06717 4383.66052 0.13% -
120 H 0 0
                        4381.8528892 4383.66052 0.04% - 0s
121
122 Cutting planes:
123
     Learned: 2
124
125
126 Explored 1 nodes (2005 simplex iterations) in 0.62 seconds (0.80 work units)
127 Thread count was 8 (of 8 available processors)
128
129 Solution count 5: 4381.85 4378.07 4358.07 ... 3251.85
130
131 Optimal solution found (tolerance 1.00e-08)
132 Best objective 4.381852889165e+03, best bound 4.381852889165e+03, gap 0.0000%
133 SP is solved
134 SP's optimal solution is' □4381
135
136 Itr = 0
137 Collect_LB = [647.0]
138 Collect_UB = [9410.705778330703]
139 Collect_Hua = [0.0]
140 Collect SPObjVal = [4381.852889165351]
141 Collect_MPObjValNHua = [647.0]
142
143
144 Set parameter MIPGap to value 1e-10
145 Gurobi Optimizer version 10.0.2 build v10.0.2rc0 (win64)
146
147 CPU model: 11th Gen Intel(R) Core(TM) i7-11370H @ 3.30GHz, instruction set [SSE2|AVX|AVX2|AVX512]
148 Thread count: 4 physical cores, 8 logical processors, using up to 8 threads
149
150 Optimize a model with 604258 rows, 283978 columns and 1665346 nonzeros
151 Model fingerprint: 0x48867975
152 Variable types: 1 continuous, 283977 integer (283941 binary)
153 Coefficient statistics:
     Matrix range [1e+00, 1e+10]
154
155
     Objective range [1e+00, 2e+01]
156
     Bounds range [1e+00, 1e+00]
157
     RHS range
                    [1e+00, 2e+10]
158 Warning: Model contains large matrix coefficients
159 Warning: Model contains large rhs
160
         Consider reformulating model or setting NumericFocus parameter
         to avoid numerical issues.
161
162 Presolve removed 421044 rows and 262659 columns (presolve time = 5s) ...
163 Presolve removed 421044 rows and 262659 columns (presolve time = 10s) ...
```

```
164 Presolve removed 543267 rows and 274297 columns
165 Presolve time: 11.37s
166 Presolved: 60991 rows, 9681 columns, 155633 nonzeros
167
    Variable types: 0 continuous, 9681 integer (9654 binary)
168 Root relaxation presolved: 9681 rows, 70672 columns, 165314 nonzeros
169
170
171 Root simplex log...
172
173 Iteration Objective Primal Inf. Dual Inf.
                                                 Time
174
            handle free variables
                                             12s
175
       7677
             5.0288529e+03  0.000000e+00  0.000000e+00
176
       7677 5.0288529e+03 0.000000e+00 0.000000e+00
177
178 Root relaxation: objective 5.028853e+03, 7677 iterations, 1.39 seconds (2.81 work units)
180
       Nodes | Current Node | Objective Bounds
                                                        Work
181
     Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time
182
183
       0 0 5028.85289 0 14
                                    - 5028.85289
                       7148.8528892 5028.85289 29.7%
184 H 0 0
       0 0 5028.85289 0 71 7148.85289 5028.85289 29.7%
185
186 H 0 0
                       6808.8528892 5028.85289 26.1% - 14s
187
       0 0 5028.85289 0 99 6808.85289 5028.85289 26.1% - 14s
           0 5028.85289 0 100 6808.85289 5028.85289 26.1%
188
                                                              - 17s
189
       0
           0.5028.85289 \quad 0.161.6808.85289.5028.85289.26.1\%
                                                              - 18s
           0 5028.85289 0 117 6808.85289 5028.85289 26.1% - 18s
190
191
           0 5028.85289 0 89 6808.85289 5028.85289 26.1% - 19s
       0
           0 5028.85289 0 120 6808.85289 5028.85289 26.1% - 20s
192
       0
193
         0 5028.85289 0 53 6808.85289 5028.85289 26.1% - 21s
194
       0 0 5028.85289 0 53 6808.85289 5028.85289 26.1%
                                                              - 21s
195 H 0 0
                    5028.8528892 5028.85289 0.00% - 24s
       0 0 5028.85289 0 53 5028.85289 5028.85289 0.00%
196
197
198 Cutting planes:
199
     Learned: 2
200
      Gomory: 2
201
      Cover: 133
      Implied bound: 22
202
203
      Clique: 771
204
      MIR: 188
205
      StrongCG: 195
206
      GUB cover: 15
207
      Zero half: 5
208
      RLT: 1
209
      Relax-and-lift: 29
     BQP: 14
210
211
      PSD: 1
212
213 Explored 1 nodes (46536 simplex iterations) in 24.71 seconds (36.45 work units)
214 Thread count was 8 (of 8 available processors)
216 Solution count 3: 5028.85 6808.85 7148.85
217
218 Optimal solution found (tolerance 1.00e-10)
219 Best objective 5.028852889165e+03, best bound 5.028852889165e+03, gap 0.0000%
220 Set parameter MIPGap to value 1e-08
221 Gurobi Optimizer version 10.0.2 build v10.0.2rc0 (win64)
222
223 CPU model: 11th Gen Intel(R) Core(TM) i7-11370H @ 3.30GHz, instruction set [SSE2|AVX|AVX2|AVX512]
224 Thread count: 4 physical cores, 8 logical processors, using up to 8 threads
225
226 Optimize a model with 536302 rows, 14427 columns and 1098833 nonzeros
227 Model fingerprint: 0xe48abb62
228 Variable types: 36 continuous, 14391 integer (8316 binary)
229 Coefficient statistics:
230
     Matrix range [1e-01, 1e+10]
231
     Objective range [6e-05, 5e+01]
232
     Bounds range [1e+00, 1e+00]
233
                   [8e-01, 1e+10]
      RHS range
234
    Warning: Model contains large matrix coefficients
235 Warning: Model contains large rhs
236
          Consider reformulating model or setting NumericFocus parameter
237
         to avoid numerical issues.
238 Presolve removed 532419 rows and 13098 columns
239 Presolve time: 0.36s
240 Presolved: 3883 rows, 1329 columns, 10423 nonzeros
241 Variable types: 8 continuous, 1321 integer (768 binary)
242
243 Root relaxation: objective 4.780567e+03, 1122 iterations, 0.02 seconds (0.01 work units)
244
245
       Nodes | Current Node | Objective Bounds
                                                         Work
    Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time
246
247
```

```
248
          0 4780.56717 0 27
                                   - 4780.56717
       0
249 H 0 0
                        4769.8528892 4780.56717 0.22%
                        4775.5671749 4780.56717 0.10%
250 H 0 0
251 H 0 0
                        4775.5671756 4780.56717 0.10%
       0 0 4780.56717 0 8 4775.56718 4780.56717 0.10%
253 *
                    0 4780.5671749 4780.56717 0.00% - 0s
254
255 Explored 1 nodes (1738 simplex iterations) in 0.59 seconds (0.78 work units)
256 Thread count was 8 (of 8 available processors)
257
258 Solution count 4: 4780.57 4775.57 4775.57 4769.85
259
260 Optimal solution found (tolerance 1.00e-08)
261 Best objective 4.780567174880e+03, best bound 4.780567174880e+03, gap 0.0000%
262
    SP is solved
263 SP's optimal solution is' □4780
264
265 	ext{ Itr} = 1
266 Collect_LB = [647.0, 5028.852889165351]
267 Collect UB = [9410.705778330703, 5427.567174879638]
268 Collect_Hua = [0.0, 4381.852889165351]
269 Collect_SPObjVal = [4381.852889165351, 4780.567174879638]
270 Collect_MPObjValNHua = [647.0, 647.0]
271
272
273 Set parameter MIPGap to value 1e-10
274 Gurobi Optimizer version 10.0.2 build v10.0.2rc0 (win64)
275
276 CPU model: 11th Gen Intel(R) Core(TM) i7-11370H @ 3.30GHz, instruction set [SSE2|AVX|AVX2|AVX512]
277 Thread count: 4 physical cores, 8 logical processors, using up to 8 threads
278
279 Optimize a model with 604258 rows, 283978 columns and 1665346 nonzeros
280 Model fingerprint: 0x5b7a6de3
281 Variable types: 1 continuous, 283977 integer (283941 binary)
282 Coefficient statistics:
     Matrix range [1e+00, 1e+10]
283
284
     Objective range [1e+00, 2e+01]
285
     Bounds range [1e+00, 1e+00]
                   [1e+00, 2e+10]
286
     RHS range
287 Warning: Model contains large matrix coefficients
288 Warning: Model contains large rhs
289
         Consider reformulating model or setting NumericFocus parameter
290
         to avoid numerical issues.
291 Presolve removed 421493 rows and 262706 columns (presolve time = 5s) ...
292 Presolve removed 421493 rows and 262706 columns (presolve time = 10s) ...
293 Presolve removed 543521 rows and 274334 columns
294 Presolve time: 10.72s
295 Presolved: 60737 rows, 9644 columns, 155020 nonzeros
296 Variable types: 0 continuous, 9644 integer (9617 binary)
297 Root relaxation presolved: 9644 rows, 70381 columns, 164664 nonzeros
298
299
300 Root simplex log...
301
302 Iteration Objective
                          Primal Inf. Dual Inf.
303
            handle free variables
                                            11s
       7952 5.4418529e+03 0.000000e+00 0.000000e+00
304
                                                          12s
305
       7952 5.4418529e+03 0.000000e+00 0.000000e+00
306
307 Root relaxation: objective 5.441853e+03, 7952 iterations, 1.27 seconds (2.40 work units)
308
309
       Nodes | Current Node | Objective Bounds | Work
     Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time
310
311
312
           0.5441.85289 0 23
                                   - 5441.85289
313
           0 5441.85289 0 45
                                   - 5441.85289
314
       0
           0 5441.85289 0 263
                                    - 5441.85289
                                                      - 14s
                                                      - 14s
315
           0.5441.85289 0.262
                                    - 5441 85289
       0
316
           0 5441.85289 0 177
                                    - 5441.85289
                                                      - 16s
           0 5441.85289 0 276
317
                                    - 5441.85289
                                                      - 17s
           0 5441.85289 0 270
318
                                    - 5441.85289
                                                  - - 17s
       0
           0 5441.85289 0 89
319
       0
                                   - 5441.85289
                                                  - - 18s
320
       0
           0 5441.85289 0 180
                                    - 5441.85289
                                                      - 19s
321
           0 5441.85289 0 74
                                   - 5441.85289
                       9521.8528892 5441.85289 42.8%
322 H 0
           0
323
       0 0 5441.85289 0 66 9521.85289 5441.85289 42.8%
                 7821.8528892 5441.85289 30.4% - 20s
324 H 0 0
325 H 0 0
                        5441.8528892 5441.85289 0.00%
       0 0 5441.85289 0 66 5441.85289 5441.85289 0.00% - 23s
326
327
328 Cutting planes:
329
     Learned: 1
330
     Gomory: 1
331
     Cover: 217
```

```
Implied bound: 22
332
333
      Clique: 801
      MIR: 92
334
335
      StrongCG: 102
336
      GUB cover: 20
337
      Zero half: 3
338
      RLT: 2
339
      Relax-and-lift: 6
340
      BQP: 5
341
342 Explored 1 nodes (37786 simplex iterations) in 23.27 seconds (34.28 work units)
343
    Thread count was 8 (of 8 available processors)
344
345 Solution count 3: 5441.85 7821.85 9521.85
346
347 Optimal solution found (tolerance 1.00e-10)
348 Best objective 5.441852889165e+03, best bound 5.441852889165e+03, gap 0.0000%
349 Set parameter MIPGap to value 1e-08
350 Gurobi Optimizer version 10.0.2 build v10.0.2rc0 (win64)
351
352 CPU model: 11th Gen Intel(R) Core(TM) i7-11370H @ 3.30GHz, instruction set [SSE2|AVX|AVX2|AVX512]
353 Thread count: 4 physical cores, 8 logical processors, using up to 8 threads
354
355 Optimize a model with 536302 rows, 14427 columns and 1098833 nonzeros
356 Model fingerprint: 0xf3ad5819
357 Variable types: 36 continuous, 14391 integer (8316 binary)
358 Coefficient statistics:
      Matrix range [1e-01, 1e+10]
359
360
      Objective range [6e-05, 5e+01]
      Bounds range [1e+00, 1e+00]
361
362
     RHS range
                    [8e-01, 1e+10]
    Warning: Model contains large matrix coefficients
363
364
    Warning: Model contains large rhs
365
          Consider reformulating model or setting NumericFocus parameter
366
          to avoid numerical issues.
367 Presolve removed 532056 rows and 13001 columns
368 Presolve time: 0.34s
369 Presolved: 4246 rows, 1426 columns, 11305 nonzeros
370 Variable types: 8 continuous, 1418 integer (820 binary)
371 Found heuristic solution: objective 3388.5671749
372
373 Root relaxation: objective 4.765567e+03, 1242 iterations, 0.00 seconds (0.01 work units)
374
375
       Nodes | Current Node | Objective Bounds
                                                        | Work
376
    Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time
377
                         4765.5671749 12906.7410 171% - 0s
378 H 0 0
379
           0
                    0
                         4765.56717 4765.56717 0.00% - 0s
380
    Explored 1 nodes (1637 simplex iterations) in 0.52 seconds (0.71 work units)
381
382
    Thread count was 8 (of 8 available processors)
383
384 Solution count 2: 4765.57 3388.57
385
386 Optimal solution found (tolerance 1.00e-08)
387 Best objective 4.765567174880e+03, best bound 4.765567174880e+03, gap 0.0000%
388 SP is solved
389 SP's optimal solution is' □4765
390
391 Itr = 2
392 Collect LB = [647.0, 5028.852889165351, 5441.852889165351]
393 Collect UB = [9410.705778330703, 5427.567174879638, 5426.852889165351]
394 Collect Hua = [0.0, 4381.852889165351, 4780.567174879638]
395 Collect_SPObjVal = [4381.852889165351, 4780.567174879638, 4765.567174879638]
396 Collect_MPObjValNHua = [647.0, 647.0, 661.2857142857138]
397
398
399
     Ops, stop iteration
400
     Values adopted from the Itr' th iteration, and Itr = \{2\}, judgeCount = \{2\}
401
               ~~judge = 2, SPObj_SPF = 4765.567174879638
402
403
    Vessel i: 0:
                 pi: 0-5, ai-di: 8-25, gi_SP-gpi_SP: 0.000000-0.000000,
                                                                             ai_SP-di: 8-25, taoi-deltai: 8-17, taoPi_SP-deltaPi_SP: 8-17,
                                                                                                                                             betaNi: 9,
    bi: 9
404 Vessel i: 1:
                  pi: 10-15, ai-di: 3-21, gi_SP-gpi_SP: 0.000000-0.000000,
                                                                                 ai SP-di: 3-21, taoi-deltai: 3-15, taoPi SP-deltaPi SP: 3-15,
                                                                                                                                                betaNi: 12
        bi: 12
                  pi: 5-10,
    Vessel i: 2:
                            ai-di: 13-36,
                                            gi SP-gpi SP: 0.000000-0.000000,
                                                                                 ai SP-di: 13-36,
                                                                                                   taoi-deltai: 13-28,
                                                                                                                       taoPi SP-deltaPi SP: 22-28,
                                                                                                                                                     betaNi
     : 15,
           bi: 15
                                                                                                                        taoPi_SP-deltaPi_SP: 22-39,
    Vessel i: 3:
                  pi: 10-16,
                              ai-di: 22-49.
                                             gi_SP-gpi_SP: 0.000000-0.000000,
                                                                                 ai_SP-di: 22-49,
                                                                                                    taoi-deltai: 22-39.
    betaNi: 17.
                  bi: 17
407
    Vessel i: 4:
                  pi: 16-22,
                               ai-di: 35-57,
                                             gi_SP-gpi_SP: 0.000000-0.000000,
                                                                                  ai SP-di: 35-57,
                                                                                                    taoi-deltai: 35-48,
                                                                                                                        taoPi SP-deltaPi SP: 35-48,
     betaNi: 13,
                  bi: 13
                               ai-di: 3-35.
                                            gi_SP-gpi_SP: 0.257143-0.800000,
                                                                                 ai SP-di: 4-35,
                                                                                                                     taoPi SP-deltaPi SP: 5-20,
                                                                                                                                                betaNi: 15
    Vessel i: 5:
                  pi: 16-23,
                                                                                                  taoi-deltai: 5-20,
        bi: 15
409 Vessel i: 6:
                  pi: 29-34,
                               ai-di: 2-29,
                                            gi_SP-gpi_SP: 1.000000-0.000000,
                                                                                 ai SP-di: 10-29,
                                                                                                   taoi-deltai: 10-18,
                                                                                                                       taoPi SP-deltaPi SP: 10-18,
```

```
409 : 8,
            bi: 8
410 Vessel i: 7:
                    pi: 27-34,
                                  ai-di: 27-68,
                                                  gi_SP-gpi_SP: 1.000000-0.600000,
                                                                                         ai_SP-di: 37-68,
                                                                                                             taoi-deltai: 37-53,
                                                                                                                                   taoPi_SP-deltaPi_SP: 37-53,
                    bi: 16
     betaNi: 16,
411 Vessel i: 8:
                    pi: 28-34,
                                  ai-di: 29-59,
                                                  gi_SP-gpi_SP: 0.142857-1.000000,
                                                                                         ai_SP-di: 30-59,
                                                                                                             taoi-deltai: 30-35,
                                                                                                                                   taoPi_SP-deltaPi_SP: 30-35,
     betaNi: 5,
412
413 round LB = [647, 5029, 5442]
414 round UB = [9411, 5428, 5427]
415 round Hua = [0, 4382, 4781]
416 round SPObjVal = [4382, 4781, 4766]
417 round MPObjValNHua = [647, 647, 661]
418
419 OptimalObj = 5441.852889165351
420 Time: 135.000000
421
422
423
424 libpng warning: iCCP: known incorrect sRGB profile
425 libpng warning: iCCP: known incorrect sRGB profile
426 libpng warning: iCCP: known incorrect sRGB profile
427 libpng warning: iCCP: known incorrect sRGB profile
428 libpng warning: iCCP: known incorrect sRGB profile
429 libpng warning: iCCP: known incorrect sRGB profile
430 libpng warning: iCCP: known incorrect sRGB profile
431 libpng warning: iCCP: known incorrect sRGB profile
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436 libpng warning: iCCP: known incorrect sRGB profile
```