

unknown

80	0	0	1493.33821	0	2909 2499.00000	1493.33821	40.2%	-	42s
81	0	0	1493.38271	0	2911 2499.00000	1493.38271	40.2%	-	42s
82	0	0	1494.01793	0	2893 2499.00000	1494.01793	40.2%	-	43s
83	0	0	1494.33835	0	2915 2499.00000	1494.33835	40.2%	-	50s
84	0	0	1494.43298	0	2930 2499.00000	1494.43298	40.2%	-	51s
85	0	0	1494.44565	0	2957 2499.00000	1494.44565	40.2%	-	51s
86	0	0	1495.10579	0	2797 2499.00000	1495.10579	40.2%	-	52s
87	0	0	1495.24116	0	2835 2499.00000	1495.24116	40.2%	-	58s
88	0	0	1495.27740	0	2844 2499.00000	1495.27740	40.2%	-	58s
89	0	0	1495.88090	0	2664 2499.00000	1495.88090	40.1%	-	59s
90	H	0	0	2465.0000000	1495.91566	39.3%	-	80s	
91	0	0	1496.01054	0	2763 2465.00000	1496.01054	39.3%	-	80s
92	0	0	1496.04258	0	2740 2465.00000	1496.04258	39.3%	-	80s
93	0	0	1496.56319	0	2844 2465.00000	1496.56319	39.3%	-	82s
94	0	0	1496.69193	0	2837 2465.00000	1496.69193	39.3%	-	88s
95	0	0	1496.71929	0	2858 2465.00000	1496.71929	39.3%	-	89s
96	0	0	1497.07019	0	2823 2465.00000	1497.07019	39.3%	-	90s
97	0	0	1497.18869	0	2846 2465.00000	1497.18869	39.3%	-	91s
98	0	0	1497.20596	0	2857 2465.00000	1497.20596	39.3%	-	91s
99	0	0	1497.58275	0	2799 2465.00000	1497.58275	39.2%	-	92s
100	0	0	1497.62944	0	2734 2465.00000	1497.62944	39.2%	-	93s
101	0	2	1497.71007	0	2714 2465.00000	1497.71007	39.2%	-	103s
102	11	14	1498.30514	4	2947 2465.00000	1498.30514	39.2%	396	105s
103	142	153	1534.27625	40	2884 2465.00000	1498.32334	39.2%	68.0	110s
104	354	365	1561.50839	89	2830 2465.00000	1498.32334	39.2%	36.6	115s
105	561	580	1633.65890	138	2782 2465.00000	1498.32334	39.2%	28.0	120s
106	H	755	746	2463.0000000	1498.32334	39.2%	25.1	158s	
107	H	756	746	2462.0000000	1498.32334	39.1%	25.3	158s	
108	791	809	1699.24022	193	2669 2462.00000	1498.32334	39.1%	25.5	160s
109	974	999	1748.34539	231	2584 2462.00000	1498.32334	39.1%	26.3	165s
110	1182	1188	1754.03432	283	2498 2462.00000	1498.32334	39.1%	25.0	170s
111	1401	1402	1758.35309	325	2422 2462.00000	1498.32334	39.1%	27.3	175s
112	1582	1597	1761.68314	367	2366 2462.00000	1498.32334	39.1%	28.9	180s
113	1918	1994	1768.42631	440	2198 2462.00000	1498.32334	39.1%	28.4	186s
114	2229	2214	1824.76643	510	2157 2462.00000	1498.32334	39.1%	26.9	190s
115	2449	2454	1834.97740	551	1921 2462.00000	1498.32334	39.1%	30.4	195s
116	2674	2623	1840.18312	604	1671 2462.00000	1498.32334	39.1%	34.7	201s
117	2923	2953	1863.00000	650	1424 2462.00000	1498.32334	39.1%	40.9	208s
118	3119	3172	1848.00000	689	1416 2462.00000	1498.32334	39.1%	40.9	213s
119	3344	3424	infeasible	727	2462.0000000	1498.32334	39.1%	40.6	219s
120	3600	3647	1859.00000	793	1339 2462.00000	1498.32334	39.1%	40.4	225s
121	3834	3864	1864.00000	829	1282 2462.00000	1498.32334	39.1%	40.4	235s
122	4058	4095	1866.00000	898	1215 2462.00000	1498.32334	39.1%	42.1	246s
123	4297	4311	1869.00000	967	1226 2462.00000	1498.32334	39.1%	42.9	258s
124	4519	4518	1872.02861	1013	1233 2462.00000	1498.32334	39.1%	44.8	271s
125	4733	4735	1883.81459	1053	1190 2462.00000	1498.32334	39.1%	46.6	284s
126	4851	4735	1938.20928	1134	1079 2462.00000	1498.32334	39.1%	47.6	285s
127	4953	4974	1899.00000	1104	1169 2462.00000	1498.32334	39.1%	48.8	299s
128	H	5225	4974	2461.0000000	1501.30954	39.0%	49.5	352s	
129	5226	4490	1840.55128	607	40945 2461.00000	1501.30954	39.0%	49.4	365s
130	5228	4491	1897.00000	689	1963 2461.00000	1564.00000	36.4%	49.4	442s
131	5229	4267	1842.00000	624	2384 2461.00000	1584.46256	35.6%	49.4	505s
132	H	5229	4054	2459.0000000	1620.26539	34.1%	49.4	550s	
133	H	5229	3851	2457.0000000	1620.26539	34.1%	49.4	550s	
134	H	5229	3658	2456.0000000	1620.26539	34.0%	49.4	550s	
135	5230	3302	2380.00975	1029	494 2456.00000	2380.00975	3.09%	49.4	560s
136	5231	3302	2381.16337	661	436 2456.00000	2381.16337	3.05%	49.4	586s
137	5232	3303	2381.16337	616	426 2456.00000	2381.16337	3.05%	49.4	592s
138	5233	3139	2382.12224	779	432 2456.00000	2382.12224	3.01%	49.4	603s
139	5234	3139	2382.77537	587	441 2456.00000	2382.77537	2.98%	49.4	606s
140	5235	3140	2384.37607	857	460 2456.00000	2384.37607	2.92%	49.4	613s
141	H	5235	2983	2455.0000000	2384.37607	2.88%	49.4	615s	
142	5237	2834	2407.00000	312	342 2455.00000	2407.00000	1.96%	49.3	635s
143	5241	2837	2407.00000	354	989 2455.00000	2407.00000	1.96%	49.3	640s
144	5243	2838	2409.29584	720	970 2455.00000	2409.29584	1.86%	49.3	649s
145	5244	2839	2409.29584	962	996 2455.00000	2409.29584	1.86%	49.3	650s
146	H	5244	2697	2453.0000000	2409.29584	1.78%	49.3	651s	
147	5249	2700	2410.99451	499	985 2453.00000	2410.99451	1.71%	49.2	655s
148	5255	2704	2411.28070	19	1011 2453.00000	2411.28070	1.70%	49.2	663s
149	5256	2705	2413.22440	863	836 2453.00000	2413.22440	1.62%	49.2	666s
150	5262	2709	2413.77376	541	834 2453.00000	2413.77376	1.60%	49.1	672s
151	5264	2710	2413.77376	180	851 2453.00000	2413.77376	1.60%	49.1	675s
152	5265	2711	2415.56234	548	825 2453.00000	2415.56234	1.53%	49.1	680s
153	5269	2714	2416.33479	691	1032 2453.00000	2416.33479	1.49%	49.0	685s
154	H	5271	2579	2452.0000000	2416.34685	1.45%	49.0	687s	
155	5274	2581	2416.34925	54	1081 2452.00000	2416.34925	1.45%	49.0	696s
156	5276	2582	2419.75212	53	666 2452.00000	2419.75212	1.32%	49.0	705s
157	5280	2585	2420.07719	1027	822 2452.00000	2420.07719	1.30%	48.9	710s
158	5282	2586	2420.07999	672	841 2452.00000	2420.07999	1.30%	48.9	717s
159	5284	2588	2420.90063	744	822 2452.00000	2420.90063	1.27%	48.9	726s
160	5288	2590	2421.16472	116	963 2452.00000	2421.16472	1.26%	48.9	731s
161	5291	2592	2421.16724	457	987 2452.00000	2421.16724	1.26%	48.8	740s
162	5294	2594	2421.96220	258	1003 2452.00000	2421.96220	1.23%	48.8	745s
163	5297	2596	2421.96220	513	1053 2452.00000	2421.96220	1.23%	48.8	752s

unknown

164	5301	2599	2421.99224	727	1054	2452.00000	2421.99224	1.22%	48.7	762s
165	5302	2468	2422.42860	828	1129	2452.00000	2422.42860	1.21%	48.7	769s
166	5303	2468	2422.58054	435	1177	2452.00000	2422.58054	1.20%	48.7	773s
167	5305	2470	2422.70582	1151	1163	2452.00000	2422.70582	1.19%	48.7	775s
168	5307	2471	2422.72969	1086	1194	2452.00000	2422.72969	1.19%	48.7	780s
169	5309	2472	2422.73092	512	1223	2452.00000	2422.73092	1.19%	48.7	788s
170	5310	2473	2423.73195	1043	1350	2452.00000	2423.73195	1.15%	48.7	790s
171	5317	2478	2423.94863	890	1361	2452.00000	2423.94863	1.14%	48.6	795s
172	5319	2479	2423.94988	643	1367	2452.00000	2423.94988	1.14%	48.6	803s
173	5320	2480	2425.00908	725	1264	2452.00000	2425.00908	1.10%	48.6	805s
174	5328	2485	2425.15711	689	1371	2452.00000	2425.15711	1.09%	48.5	816s
175	5332	2488	2425.59993	616	1423	2452.00000	2425.59993	1.08%	48.5	820s
176	5336	2490	2425.61010	49	1379	2452.00000	2425.61010	1.08%	48.4	830s
177	5337	2365	2426.10914	312	1249	2452.00000	2426.10914	1.06%	48.4	837s
178	5341	2368	2426.20338	354	1241	2452.00000	2426.20338	1.05%	48.4	840s
179	5343	2369	2426.20494	720	1230	2452.00000	2426.20494	1.05%	48.4	849s
180	5344	2370	2426.52949	962	1310	2452.00000	2426.52949	1.04%	48.3	851s
181	5347	2372	2426.70335	632	1426	2452.00000	2426.70335	1.03%	48.3	855s
182	5348	2372	2426.76755	439	1345	2452.00000	2426.76755	1.03%	48.3	861s
183	5353	2376	2426.95171	56	1420	2452.00000	2426.95171	1.02%	48.3	865s
184	5354	2376	2426.95233	525	1421	2452.00000	2426.95233	1.02%	48.3	874s
185	5355	2377	2427.63883	19	1385	2452.00000	2427.63883	0.99%	48.3	877s
186	5358	2379	2427.80465	1158	1412	2452.00000	2427.80465	0.99%	48.2	880s
187	5360	2380	2427.82332	636	1430	2452.00000	2427.82332	0.99%	48.2	886s
188	5369	2386	2427.86082	691	1490	2452.00000	2427.86082	0.98%	48.1	900s
189	5374	2390	2428.24261	54	1439	2452.00000	2428.24261	0.97%	48.1	905s
190	5377	2392	2428.24847	910	1462	2452.00000	2428.24847	0.97%	48.1	910s
191	5379	2393	2428.25007	476	1484	2452.00000	2428.25007	0.97%	48.0	918s
192	5380	2394	2428.53786	1027	1409	2452.00000	2428.53786	0.96%	48.0	930s
193	5381	2394	2428.67776	253	1467	2452.00000	2428.67776	0.95%	48.0	935s
194	5383	2396	2428.74323	263	1453	2452.00000	2428.74323	0.95%	48.0	940s
195	5388	2399	2428.75958	116	1461	2452.00000	2428.75958	0.95%	48.0	950s
196	5392	2402	2429.05277	296	1356	2452.00000	2429.05277	0.94%	47.9	955s
197	5397	2405	2429.05952	513	1366	2452.00000	2429.05952	0.94%	47.9	963s
198	5398	2406	2429.25606	782	1393	2452.00000	2429.25606	0.93%	47.9	965s
199	5401	2408	2429.37227	727	1379	2452.00000	2429.37227	0.92%	47.8	971s
200	5408	2412	2429.39174	194	1398	2452.00000	2429.39174	0.92%	47.8	983s
201	5409	2413	2429.76349	512	1232	2452.00000	2429.76349	0.91%	47.8	985s
202	5415	2417	2429.87147	174	1387	2452.00000	2429.87147	0.90%	47.7	998s
203	5417	2418	2430.17181	890	1434	2452.00000	2430.17181	0.89%	47.7	1000s
204	5420	2420	2430.21526	725	1499	2452.00000	2430.21526	0.89%	47.7	1007s
205	5423	2422	2430.21867	227	1411	2452.00000	2430.21867	0.89%	47.6	1017s
206	5426	2424	2430.52245	607	1442	2452.00000	2430.52245	0.88%	47.6	1021s
207	5429	2426	2430.55764	624	1490	2452.00000	2430.55764	0.87%	47.6	1026s
208	5432	2428	2430.56020	616	1471	2452.00000	2430.56020	0.87%	47.6	1037s
209	5434	2430	2430.77999	587	1407	2452.00000	2430.77999	0.87%	47.5	1040s
210	5440	2434	2430.84667	69	1449	2452.00000	2430.84667	0.86%	47.5	1045s
211	5441	2434	2430.84744	354	1478	2452.00000	2430.84744	0.86%	47.5	1062s
212	5443	2436	2431.16989	720	1503	2452.00000	2431.16989	0.85%	47.5	1065s
213	5448	2439	2431.19980	439	1463	2452.00000	2431.19980	0.85%	47.4	1079s
214	5449	2440	2431.39525	499	1439	2452.00000	2431.39525	0.84%	47.4	1096s
215	5450	2440	2431.42223	214	1460	2452.00000	2431.42223	0.84%	47.4	1100s
216	5454	2443	2431.46961	525	1477	2452.00000	2431.46961	0.84%	47.4	1105s
217	5457	2445	2431.47199	933	1430	2452.00000	2431.47199	0.84%	47.3	1116s
218	5460	2447	2431.68600	636	1392	2452.00000	2431.68600	0.83%	47.3	1120s
219	5465	2450	2431.70604	548	1497	2452.00000	2431.70604	0.83%	47.3	1132s
220	5467	2452	2431.81359	1094	1379	2452.00000	2431.81359	0.82%	47.3	1136s
221	5469	2453	2431.81731	691	1421	2452.00000	2431.81731	0.82%	47.2	1140s
222	5471	2454	2431.82242	1192	1465	2452.00000	2431.82242	0.82%	47.2	1145s
223	5472	2455	2431.82313	570	1481	2452.00000	2431.82313	0.82%	47.2	1156s
224	5473	2456	2431.86363	367	1546	2452.00000	2431.86363	0.82%	47.2	1161s
225	5475	2457	2431.90478	1103	1509	2452.00000	2431.90478	0.82%	47.2	1168s
226	5476	2458	2431.91279	53	1613	2452.00000	2431.91279	0.82%	47.2	1170s
227	5479	2460	2431.92213	476	1596	2452.00000	2431.92213	0.82%	47.2	1176s
228	5480	2460	2431.92249	1027	1613	2452.00000	2431.92249	0.82%	47.1	1188s
229	5481	2461	2431.95046	253	1537	2452.00000	2431.95046	0.82%	47.1	1190s
230	5483	2462	2431.98316	263	1531	2452.00000	2431.98316	0.82%	47.1	1195s

231 Cutting planes:

232 Learned: 213

233 Gomory: 53

234 Lift-and-project: 10

235 Cover: 15

236 Implied bound: 173

237 Projected implied bound: 1

238 Clique: 20

239 MIR: 505

240 StrongCG: 124

241 Flow cover: 1262

242 Zero half: 326

243 RLT: 79

244 Relax-and-lift: 2888

245 PSD: 1

246

247

248 Explored 5485 nodes (605285 simplex iterations) in 1200.76 seconds (643.65 work units)  
 249 Thread count was 8 (of 8 available processors)  
 250  
 251 Solution count 3: 2452 2452 2452  
 252  
 253 Time limit reached  
 254 Best objective 2.45200000000e+03, best bound 2.43200000000e+03, gap 0.8157%  
 255  
 256 Output one feasible solution with limited computation time  
 257  
 258 Optimization was stopped with status 9  
 259  
 260 Number of solution stored: 3  
 261 2452 2452 2452  
 262  
 263 Obj = 2452.0  
 264  
 265 Solutions:  
 266 The total pi = 564.0  
 267 The total duration time in berth stage = 217.0  
 268 The total duration time in quay crane scheduling stage = 73.0  
 269 The total departure time in berth stage= 1298.0  
 270 The total departure time in quay crane scheduling stage = 1154.0  
 271 The total wasted crane work hour according QC0= 19.0  
 272 The last depature time in quay crane scheduling stage = 65.0  
 273  
 274 The specific solution are as follows:  
 275 Vessel i: 0: li: 3, pi: 4-7, ai-di: 3-15, taoi-deltai: 3-12, periodi: 9,  
     periodPi: 3, c\_i: 2372796, dowork: 2372796,  
 276 Vessel i: 1: li: 5, pi: 11-16, ai-di: 24-34, taoi-deltai: 24-31, periodi: 7,  
     : 24-26, periodPi: 2, c\_i: 1845508, dowork: 1845508,  
 277 Vessel i: 2: li: 3, pi: 7-10, ai-di: 5-17, taoi-deltai: 5-14, periodi: 9,  
     : 29-31, periodPi: 3, c\_i: 2372796, dowork: 2372796,  
 278 Vessel i: 3: li: 3, pi: 3-6, ai-di: 29-34, taoi-deltai: 29-33, periodi: 4,  
     29-31, periodPi: 2, c\_i: 1054576, dowork: 1054576,  
 279 Vessel i: 4: li: 3, pi: 10-13, ai-di: 60-64, taoi-deltai: 60-62, periodi: 2,  
     : 60-61, periodPi: 1, c\_i: 527288, dowork: 922754,  
 280 Vessel i: 5: li: 4, pi: 15-19, ai-di: 1-11, taoi-deltai: 1-10, periodi: 9,  
     -3, periodPi: 2, c\_i: 2372796, dowork: 2372796,  
 281 Vessel i: 6: li: 3, pi: 4-7, ai-di: 49-55, taoi-deltai: 49-55, periodi: 6,  
     49-51, periodPi: 2, c\_i: 1581864, dowork: 1845508,  
 282 Vessel i: 7: li: 5, pi: 24-29, ai-di: 6-18, taoi-deltai: 6-15, periodi: 9,  
     -10, periodPi: 4, c\_i: 2372796, dowork: 2372796,  
 283 Vessel i: 8: li: 6, pi: 23-29, ai-di: 24-29, taoi-deltai: 24-27, periodi: 3,  
     : 24-25, periodPi: 1, c\_i: 790932, dowork: 922754,  
 284 Vessel i: 9: li: 3, pi: 10-13, ai-di: 6-11, taoi-deltai: 6-8, periodi: 2,  
     periodPi: 1, c\_i: 527288, dowork: 527288,  
 285 Vessel i: 10: li: 4, pi: 0-4, ai-di: 4-14, taoi-deltai: 4-13, periodi: 9,  
     -7, periodPi: 3, c\_i: 2372796, dowork: 2372796,  
 286 Vessel i: 11: li: 6, pi: 6-12, ai-di: 37-44, taoi-deltai: 37-46, periodi: 9,  
     : 37-39, periodPi: 2, c\_i: 2372796, dowork: 2504618,  
 287 Vessel i: 12: li: 5, pi: 6-11, ai-di: 27-32, taoi-deltai: 27-29, periodi: 2,  
     : 27-28, periodPi: 1, c\_i: 527288, dowork: 527288,  
 288 Vessel i: 13: li: 6, pi: 16-22, ai-di: 41-52, taoi-deltai: 41-49, periodi: 8,  
     deltaPi\_SP: 41-43, periodPi: 2, c\_i: 2109152, dowork: 3031906,  
 289 Vessel i: 14: li: 3, pi: 15-18, ai-di: 12-21, taoi-deltai: 12-21, periodi: 9,  
     deltaPi\_SP: 12-15, periodPi: 3, c\_i: 2372796, dowork: 2372796,  
 290 Vessel i: 15: li: 3, pi: 16-19, ai-di: 23-31, taoi-deltai: 23-29, periodi: 6,  
     deltaPi\_SP: 23-25, periodPi: 2, c\_i: 1581864, dowork: 1581864,  
 291 Vessel i: 16: li: 4, pi: 30-34, ai-di: 34-40, taoi-deltai: 34-41, periodi: 7,  
     deltaPi\_SP: 34-36, periodPi: 2, c\_i: 1845508, dowork: 1845508,  
 292 Vessel i: 17: li: 3, pi: 6-9, ai-di: 30-36, taoi-deltai: 30-32, periodi: 2,  
     : 30-31, periodPi: 1, c\_i: 527288, dowork: 527288,  
 293 Vessel i: 18: li: 3, pi: 1-4, ai-di: 50-53, taoi-deltai: 50-55, periodi: 5,  
     : 50-52, periodPi: 2, c\_i: 1318220, dowork: 1318220,  
 294 Vessel i: 19: li: 3, pi: 17-20, ai-di: 30-36, taoi-deltai: 30-32, periodi: 2,  
     deltaPi\_SP: 30-31, periodPi: 1, c\_i: 527288, dowork: 790932,  
 295 Vessel i: 20: li: 3, pi: 20-23, ai-di: 30-34, taoi-deltai: 30-34, periodi: 4,  
     deltaPi\_SP: 30-32, periodPi: 2, c\_i: 1054576, dowork: 1318220,  
 296 Vessel i: 21: li: 5, pi: 10-15, ai-di: 10-15, taoi-deltai: 10-12, periodi: 2,  
     deltaPi\_SP: 10-11, periodPi: 1, c\_i: 527288, dowork: 1450042,  
 297 Vessel i: 22: li: 3, pi: 19-22, ai-di: 19-28, taoi-deltai: 19-27, periodi: 8,  
     deltaPi\_SP: 19-22, periodPi: 3, c\_i: 2109152, dowork: 2240974,  
 298 Vessel i: 23: li: 3, pi: 0-3, ai-di: 19-22, taoi-deltai: 19-23, periodi: 4,  
     : 19-21, periodPi: 2, c\_i: 1054576, dowork: 1054576,  
 299 Vessel i: 24: li: 3, pi: 3-6, ai-di: 63-68, taoi-deltai: 63-69, periodi: 6,  
     : 63-65, periodPi: 2, c\_i: 1581864, dowork: 1845508,  
 300 Vessel i: 25: li: 5, pi: 29-34, ai-di: 15-20, taoi-deltai: 15-17, periodi: 2,  
     deltaPi\_SP: 15-16, periodPi: 1, c\_i: 527288, dowork: 527288,  
 301 Vessel i: 26: li: 3, pi: 2-5, ai-di: 43-47, taoi-deltai: 43-45, periodi: 2,  
     : 43-44, periodPi: 1, c\_i: 527288, dowork: 659110,  
 302 Vessel i: 27: li: 5, pi: 29-34, ai-di: 1-4, taoi-deltai: 1-3, periodi: 2,  
     -2, periodPi: 1, c\_i: 527288, dowork: 527288,  
 303 Vessel i: 28: li: 4, pi: 30-34, ai-di: 45-51, taoi-deltai: 45-50, periodi: 5,

taoPi\_SP-deltaPi\_SP: 3-6  
 fa\_i: 2  
 taoPi\_SP-deltaPi\_SP  
 fa\_i: 4  
 taoPi\_SP-deltaPi\_SP: 5-8  
 fa\_i: 2  
 taoPi\_SP-deltaPi\_SP:  
 fa\_i: 2  
 taoPi\_SP-deltaPi\_SP  
 fa\_i: 2  
 taoPi\_SP-deltaPi\_SP: 1  
 fa\_i: 3  
 taoPi\_SP-deltaPi\_SP:  
 fa\_i: 2  
 taoPi\_SP-deltaPi\_SP: 6  
 fa\_i: 4  
 taoPi\_SP-deltaPi\_SP  
 fa\_i: 5  
 taoPi\_SP-deltaPi\_SP: 6-7  
 fa\_i: 2  
 taoPi\_SP-deltaPi\_SP: 4  
 fa\_i: 3  
 taoPi\_SP-deltaPi\_SP  
 fa\_i: 5  
 taoPi\_SP-deltaPi\_SP  
 fa\_i: 4  
 taoPi\_SP-  
 fa\_i: 5  
 taoPi\_SP-  
 fa\_i: 2  
 taoPi\_SP-  
 fa\_i: 2  
 taoPi\_SP-  
 fa\_i: 3  
 taoPi\_SP-deltaPi\_SP  
 fa\_i: 2  
 taoPi\_SP-deltaPi\_SP  
 fa\_i: 2  
 taoPi\_SP-  
 fa\_i: 2  
 taoPi\_SP-  
 fa\_i: 2  
 taoPi\_SP-  
 fa\_i: 4  
 taoPi\_SP-deltaPi\_SP  
 fa\_i: 2  
 taoPi\_SP-deltaPi\_SP  
 fa\_i: 2  
 taoPi\_SP-  
 fa\_i: 2  
 taoPi\_SP-  
 fa\_i: 4  
 taoPi\_SP-deltaPi\_SP  
 fa\_i: 2  
 taoPi\_SP-deltaPi\_SP  
 fa\_i: 1  
 taoPi\_SP-deltaPi\_SP  
 fa\_i: 4  
 taoPi\_SP-  
 fa\_i: 2

## unknown

303	deltaPi_SP: 45-46,	periodPi: 1,	c_i: 1318220,	dowork: 1318220,	fa_i: 3
304	Vessel i: 29: li: 4, pi: 6-10,	ai-di: 60-66,	taoi-deltai: 60-63,	periodi: 3,	taoPi_SP-deltaPi_SP
	: 60-61,	c_i: 790932,	dowork: 790932,	fa_i: 3	
305	Vessel i: 30: li: 4, pi: 12-16,	ai-di: 46-49,	taoi-deltai: 46-50,	periodi: 4,	taoPi_SP-
	deltaPi_SP: 46-47,	c_i: 1054576,	dowork: 1054576,	fa_i: 3	
306	Vessel i: 31: li: 5, pi: 24-29,	ai-di: 0-4,	taoi-deltai: 0-3,	periodi: 3,	taoPi_SP-deltaPi_SP: 0
	-1,	c_i: 790932,	dowork: 922754,	fa_i: 4	
307	Vessel i: 32: li: 5, pi: 29-34,	ai-di: 24-35,	taoi-deltai: 24-33,	periodi: 9,	taoPi_SP-
	deltaPi_SP: 24-27,	c_i: 2372796,	dowork: 2768262,	fa_i: 4	
308	Vessel i: 33: li: 4, pi: 30-34,	ai-di: 6-14,	taoi-deltai: 6-13,	periodi: 7,	taoPi_SP-deltaPi_SP
	: 6-9,	c_i: 1845508,	dowork: 1845508,	fa_i: 3	
309	Vessel i: 34: li: 3, pi: 3-6,	ai-di: 26-35,	taoi-deltai: 26-28,	periodi: 2,	taoPi_SP-deltaPi_SP
	: 26-27,	c_i: 527288,	dowork: 527288,	fa_i: 2	
310	Vessel i: 35: li: 4, pi: 20-24,	ai-di: 8-13,	taoi-deltai: 8-10,	periodi: 2,	taoPi_SP-deltaPi_SP
	: 8-9,	c_i: 527288,	dowork: 527288,	fa_i: 3	
311	Vessel i: 36: li: 5, pi: 17-22,	ai-di: 53-61,	taoi-deltai: 53-62,	periodi: 9,	taoPi_SP-
	deltaPi_SP: 53-55,	c_i: 2372796,	dowork: 2636440,	fa_i: 4	
312	Vessel i: 37: li: 4, pi: 7-11,	ai-di: 17-23,	taoi-deltai: 17-24,	periodi: 7,	taoPi_SP-deltaPi_SP
	: 17-19,	c_i: 1845508,	dowork: 1845508,	fa_i: 3	
313	Vessel i: 38: li: 6, pi: 28-34,	ai-di: 55-63,	taoi-deltai: 55-63,	periodi: 8,	taoPi_SP-
	deltaPi_SP: 55-57,	c_i: 2109152,	dowork: 2504618,	fa_i: 5	
314	Vessel i: 39: li: 6, pi: 22-28,	ai-di: 46-54,	taoi-deltai: 46-55,	periodi: 9,	taoPi_SP-
	deltaPi_SP: 46-48,	c_i: 2372796,	dowork: 2372796,	fa_i: 5	
315	TimeSolveModel: 1284.000000				
316					
317	TimeAll: 1289.000000				
318					
319					