

Results for Neuroblastoma BioConsert Project – February 2011

GS=Gold Standard, BI=Bioggle, IE= In Edge, PR = Page Rank and PC = Path Count

1. Using reduced data sets

a. Rankings given as input

GS_c:=[[1, 2, 3], [4], [5, 6], [7], [8], [9, 10, 11, 12], [13, 14], [15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 29, 30, 31, 32, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 59, 61, 62, 63, 64, 66, 67, 68, 69, 70, 71, 73, 74, 78, 79, 80, 81, 83, 84, 89, 94, 96, 97, 99, 100, 101, 102, 103, 104, 105, 106, 107, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 122, 123, 124, 126, 127, 128, 129, 130, 131, 132, 134, 135, 138, 139, 145, 154, 155, 157, 158, 159, 160, 161, 162, 163, 164, 165, 167, 168, 169, 170, 171, 176, 177, 178, 179, 180, 181, 182, 183, 184, 186, 187, 189, 191, 194, 196, 197, 198, 199, 200, 203, 204, 205, 206, 207, 208, 209, 210, 212, 213, 214, 215, 216, 217, 218, 219, 220, 222, 223, 224, 225, 229, 231, 232, 253, 254, 255, 256, 258, 260, 263, 264, 265, 266, 267, 268, 269, 270, 271, 273, 274, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 287, 288, 289, 290, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 308, 309, 310, 311, 312, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 334, 335, 336, 337, 338, 339, 340, 342, 343, 344, 345, 346, 347, 348, 349, 351, 358, 359, 360, 361, 362, 363, 365, 366, 367, 368, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 403, 404, 418, 420, 421, 426, 428, 429, 430, 431, 432, 445, 447, 448, 449, 450, 451, 476, 479, 480, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 523, 524, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 546, 547, 548, 549, 550, 551, 552, 553, 555, 556, 557, 559, 560, 561, 562, 563, 564, 565, 566, 567, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 583, 584, 585, 586, 587, 588, 589, 590, 591, 595, 596, 597, 598, 599, 601, 603, 605, 606, 607, 609, 610, 611, 613, 615, 617, 620, 621, 622, 623, 624, 625, 626, 627, 630, 631, 632, 633, 634, 637, 638, 640, 641, 642, 643, 645, 647, 649, 650, 651]];

BI_c:=[[3], [2], [1], [390, 512], [495], [37, 47, 215], [84], [83], [4, 35], [5, 7, 8, 9, 10, 11, 49, 73, 170, 189, 191, 334, 349, 526, 583, 626], [598, 617], [6, 17, 41, 51, 53, 55, 74, 138, 154, 184, 255, 256, 289, 331, 347, 376, 420, 426, 428, 513, 515, 532, 534, 591, 596, 603, 622, 650, 651], [12, 56, 79, 323, 335, 336, 337, 338, 529], [97], [297], [302], [296], [30, 301, 304, 497], [548, 645], [89], [203], [371, 519], [177, 271], [14], [59, 96, 222], [429], [599], [523], [345], [286], [231], [499], [197], [181], [145], [254], [253], [372], [40, 80, 110, 111, 113, 114, 115, 139, 161, 171, 314, 348, 479, 480, 546], [112], [476], [269], [13, 15, 16, 18, 19, 21, 22, 23, 24, 25, 26, 29, 36, 38, 39, 42, 43, 45, 48, 50, 54, 61, 62, 63, 67, 68, 69, 70, 71, 78, 81, 94, 116, 117, 118, 122, 128, 129, 130, 131, 158, 159, 162, 163, 164, 167, 182, 183, 186, 194, 198, 206, 208, 209, 210, 213, 214, 216, 217, 218, 219, 223, 224, 225, 258, 260, 263, 264, 270, 273, 276, 277, 278, 279, 281, 283, 284, 287, 288, 303, 305, 308, 309, 310, 311, 315, 329, 330, 340, 344, 346, 358, 359, 360,

361, 362, 363, 365, 366, 370, 373, 374, 378, 379, 381, 382, 384, 386, 387, 388, 391, 392, 403, 418, 421, 430, 431, 448, 450, 451, 510, 511, 514, 516, 517, 518, 524, 527, 528, 530, 531, 533, 535, 547, 549, 550, 551, 552, 553, 555, 559, 560, 561, 563, 565, 566, 575, 576, 577, 578, 579, 580, 581, 584, 585, 586, 587, 588, 589, 590, 595, 597, 601, 605, 606, 607, 609, 610, 611, 613, 615, 621, 623, 624, 625, 627, 630, 631, 632, 633, 640, 643, 649], [351], [20, 66, 119, 120, 127, 132, 165, 220, 229, 312, 316, 317, 318, 319, 320, 321, 322, 324, 325, 326, 327, 367, 389, 447, 449, 536, 564], [404], [212, 432, 445], [368], [383, 500], [124, 298, 489, 494, 496], [31, 32, 155, 293, 299, 300, 306, 342, 343, 488, 490, 491, 492, 493, 498, 502, 503, 504, 505, 506, 507, 508, 509, 556, 557, 641], [295], [570, 571, 572, 573], [280], [567], [267], [64, 135, 179, 180, 199, 205, 207, 268, 290, 620, 637], [134, 176, 178, 196, 282, 562], [52, 204, 520, 521, 634, 638], [123, 294], [266], [126, 375, 647], [99, 100, 101, 102, 103, 104, 105, 106, 107, 265, 328], [157, 200, 232, 274, 339, 377, 385, 574], [160, 168, 169], [501], [642], [187]];

IE_c:=[[4, 35, 83, 84, 97, 495, 598, 617], [1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 17, 37, 41, 47, 49, 51, 53, 55, 73, 74, 138, 154, 170, 184, 189, 191, 215, 255, 256, 289, 331, 334, 347, 349, 376, 390, 420, 426, 428, 512, 513, 515, 526, 532, 534, 583, 591, 596, 603, 622, 626, 650, 651], [12, 14, 30, 56, 59, 79, 89, 96, 177, 203, 222, 271, 296, 297, 301, 302, 304, 323, 335, 336, 337, 338, 371, 497, 519, 529, 548, 599, 645], [112, 145, 181, 197, 212, 231, 253, 269, 372, 404, 432, 445, 449, 476, 499], [13, 15, 16, 18, 19, 21, 22, 23, 24, 25, 26, 29, 36, 38, 39, 40, 42, 43, 45, 48, 50, 54, 61, 62, 63, 67, 68, 69, 70, 71, 78, 80, 81, 94, 99, 100, 101, 102, 103, 104, 105, 106, 107, 110, 111, 113, 114, 115, 116, 117, 118, 122, 126, 128, 129, 130, 131, 139, 158, 159, 161, 162, 163, 164, 167, 171, 182, 183, 186, 194, 198, 206, 208, 209, 210, 213, 214, 216, 217, 218, 219, 223, 224, 225, 254, 258, 260, 263, 264, 265, 270, 273, 276, 277, 278, 279, 280, 281, 283, 284, 287, 288, 303, 305, 308, 309, 310, 311, 314, 315, 328, 329, 330, 340, 344, 345, 346, 348, 351, 358, 359, 360, 361, 362, 363, 365, 366, 370, 373, 374, 375, 378, 379, 381, 382, 384, 386, 387, 388, 391, 392, 403, 418, 421, 429, 430, 431, 448, 450, 451, 479, 480, 510, 511, 514, 516, 517, 518, 523, 524, 527, 528, 530, 531, 533, 535, 546, 547, 549, 550, 551, 552, 553, 555, 559, 560, 561, 563, 565, 566, 570, 571, 572, 573, 575, 576, 577, 578, 579, 580, 581, 584, 585, 586, 587, 588, 589, 590, 595, 597, 601, 605, 606, 607, 609, 610, 611, 613, 615, 621, 623, 624, 625, 627, 630, 631, 632, 633, 640, 643, 647, 649], [20, 31, 32, 52, 64, 66, 119, 120, 123, 124, 127, 132, 134, 135, 155, 157, 160, 165, 168, 169, 176, 178, 179, 180, 187, 196, 199, 200, 204, 205, 207, 220, 229, 232, 266, 267, 268, 274, 282, 286, 290, 293, 294, 295, 298, 299, 300, 306, 312, 316, 317, 318, 319, 320, 321, 322, 324, 325, 326, 327, 339, 342, 343, 367, 368, 377, 383, 385, 389, 447, 488, 489, 490, 491, 492, 493, 494, 496, 498, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 520, 521, 536, 556, 557, 562, 564, 567, 574, 620, 634, 637, 638, 641, 642]];

PR_c:=[[3], [2], [1], [37], [215], [5, 6, 7, 8, 9, 10, 11, 12, 17, 47, 51, 53, 55, 56, 73, 74, 97, 138, 154, 170, 189, 191, 222, 255, 256, 323, 331, 336, 337, 338, 347, 349, 376, 390, 420, 426, 512, 513, 515, 532, 534, 583, 596, 603, 622, 626, 650, 651], [598], [495], [617], [41, 184, 289, 428, 526, 591], [35], [334], [49, 335, 429], [84], [4], [231], [83], [96, 529], [645], [254, 523], [79], [567], [368], [197], [476], [13, 15, 16, 18, 19, 20, 21, 23, 24, 29, 36, 38, 39, 40, 42, 43, 48, 50, 54, 61, 62, 63, 66, 67, 68, 69, 70, 71, 78, 80, 81, 94, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 122, 126, 128, 129, 130, 131, 132,

139, 158, 159, 161, 162, 163, 164, 167, 171, 183, 186, 194, 198, 206, 208, 209, 212, 213, 214, 216, 217, 218, 219, 220, 223, 224, 225, 258, 260, 264, 270, 273, 276, 277, 278, 279, 283, 284, 287, 288, 303, 308, 309, 310, 311, 312, 315, 316, 317, 318, 319, 320, 321, 322, 324, 325, 326, 327, 329, 330, 339, 340, 344, 346, 348, 358, 359, 360, 361, 362, 363, 365, 366, 370, 373, 374, 378, 379, 381, 382, 385, 386, 387, 388, 391, 392, 418, 421, 430, 431, 448, 450, 451, 479, 480, 510, 511, 516, 517, 524, 527, 528, 530, 531, 533, 535, 536, 546, 547, 549, 550, 551, 552, 553, 555, 559, 560, 561, 563, 564, 565, 566, 575, 576, 577, 578, 579, 580, 581, 584, 585, 586, 587, 588, 589, 590, 597, 601, 606, 607, 609, 610, 611, 613, 615, 621, 623, 624, 625, 627, 630, 631, 632, 633, 643, 649], [548], [59], [181, 372], [499], [404], [432], [45, 182, 263, 305, 314, 345, 384, 403, 445, 518, 595, 605, 640], [145, 253], [22, 25, 26, 210, 269, 281, 514], [280], [449], [120, 127, 157, 165, 187, 200, 229, 232, 274, 367, 377, 389, 447, 501, 574, 642], [599], [160, 168, 169], [647], [14, 177, 203, 271, 371, 519], [30, 296, 297, 301, 302, 304, 497], [286], [89], [351], [375], [52, 64, 123, 134, 135, 176, 178, 179, 180, 196, 199, 204, 205, 207, 266, 267, 268, 282, 290, 294, 520, 521, 562, 620, 634, 637, 638], [31, 32, 124, 155, 293, 295, 298, 299, 300, 306, 342, 343, 383, 488, 489, 490, 491, 492, 493, 494, 496, 498, 500, 502, 503, 504, 505, 506, 507, 508, 509, 556, 557, 641], [570, 571, 573], [99, 100, 101, 102, 103, 104, 105, 106, 107, 265, 328], [572]];

PC_c:=[[495], [1, 2, 3, 390, 512], [4, 30, 35, 83, 84, 296, 297, 301, 302, 304, 497, 598, 617], [5, 6, 7, 8, 9, 10, 11, 14, 17, 37, 41, 47, 49, 51, 53, 55, 73, 74, 97, 138, 154, 170, 177, 184, 189, 191, 203, 215, 255, 256, 271, 289, 331, 334, 347, 349, 371, 376, 420, 426, 428, 513, 515, 519, 526, 532, 534, 583, 591, 596, 603, 622, 626, 650, 651], [12, 56, 59, 79, 89, 96, 222, 323, 335, 336, 337, 338, 529, 548, 599, 645], [499], [112, 181, 197, 269, 345, 372, 429, 523], [31, 32, 124, 145, 155, 212, 231, 253, 293, 295, 298, 299, 300, 306, 342, 343, 383, 404, 432, 445, 449, 476, 488, 489, 490, 491, 492, 493, 494, 496, 498, 500, 502, 503, 504, 505, 506, 507, 508, 509, 556, 557, 641], [13, 15, 16, 18, 19, 21, 22, 23, 24, 25, 26, 29, 36, 38, 39, 40, 42, 43, 45, 48, 50, 52, 54, 61, 62, 63, 64, 67, 68, 69, 70, 71, 78, 80, 81, 94, 99, 100, 101, 102, 103, 104, 105, 106, 107, 110, 111, 113, 114, 115, 116, 117, 118, 122, 123, 126, 128, 129, 130, 131, 134, 135, 139, 158, 159, 161, 162, 163, 164, 167, 171, 176, 178, 179, 180, 182, 183, 186, 194, 196, 198, 199, 204, 205, 206, 207, 208, 209, 210, 213, 214, 216, 217, 218, 219, 223, 224, 225, 254, 258, 260, 263, 264, 265, 266, 267, 268, 270, 273, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 287, 288, 290, 294, 303, 305, 308, 309, 310, 311, 314, 315, 328, 329, 330, 340, 344, 346, 348, 351, 358, 359, 360, 361, 362, 363, 365, 366, 370, 373, 374, 375, 378, 379, 381, 382, 384, 386, 387, 388, 391, 392, 403, 418, 421, 430, 431, 448, 450, 451, 479, 480, 510, 511, 514, 516, 517, 518, 520, 521, 524, 527, 528, 530, 531, 533, 535, 546, 547, 549, 550, 551, 552, 553, 555, 559, 560, 561, 562, 563, 565, 566, 570, 571, 572, 573, 575, 576, 577, 578, 579, 580, 581, 584, 585, 586, 587, 588, 589, 590, 595, 597, 601, 605, 606, 607, 609, 610, 611, 613, 615, 620, 621, 623, 624, 625, 627, 630, 631, 632, 633, 634, 637, 638, 640, 643, 647, 649], [20, 66, 119, 120, 127, 132, 157, 160, 165, 168, 169, 187, 200, 220, 229, 232, 274, 312, 316, 317, 318, 319, 320, 321, 322, 324, 325, 326, 327, 339, 367, 368, 377, 385, 389, 447, 501, 536, 564, 567, 574, 642]];

b. Results

Using BioConsert

M1:=[[495], [1, 2, 3], [390, 512], [4, 35, 83, 84, 598, 617], [5, 6, 7, 8, 9, 10, 11, 17, 37, 41, 47, 49, 51, 53, 55, 73, 74, 97, 138, 154, 170, 184, 189, 191, 215, 255, 256, 289, 331, 334, 347, 349, 376, 420, 426, 428, 513, 515, 526, 532, 534, 583, 591, 596, 603, 622, 626, 650, 651], [12, 56, 79, 323, 335, 336, 337, 338, 529], [30, 296, 297, 301, 302, 304, 497], [548, 645], [14, 177, 203, 271, 371, 519], [59, 89, 96, 222, 599], [429, 523], [231], [499], [112, 181, 197, 372], [345], [269], [145, 212, 253, 404, 432, 445, 449, 476], [254], [13, 15, 16, 18, 19, 21, 22, 23, 24, 25, 26, 29, 36, 38, 39, 40, 42, 43, 45, 48, 50, 54, 61, 62, 63, 67, 68, 69, 70, 71, 78, 80, 81, 94, 110, 111, 113, 114, 115, 116, 117, 118, 122, 126, 128, 129, 130, 131, 139, 158, 159, 161, 162, 163, 164, 167, 171, 182, 183, 186, 194, 198, 206, 208, 209, 210, 213, 214, 216, 217, 218, 219, 223, 224, 225, 258, 260, 263, 264, 270, 273, 276, 277, 278, 279, 281, 283, 284, 287, 288, 303, 305, 308, 309, 310, 311, 314, 315, 329, 330, 340, 344, 346, 348, 358, 359, 360, 361, 362, 363, 365, 366, 370, 373, 374, 378, 379, 381, 382, 384, 386, 387, 388, 391, 392, 403, 418, 421, 430, 431, 448, 450, 451, 479, 480, 510, 511, 514, 516, 517, 518, 524, 527, 528, 530, 531, 533, 535, 546, 547, 549, 550, 551, 552, 553, 555, 559, 560, 561, 563, 565, 566, 575, 576, 577, 578, 579, 580, 581, 584, 585, 586, 587, 588, 589, 590, 595, 597, 601, 605, 606, 607, 609, 610, 611, 613, 615, 621, 623, 624, 625, 627, 630, 631, 632, 633, 640, 643, 649], [280, 351], [286], [20, 66, 119, 120, 127, 132, 165, 220, 229, 312, 316, 317, 318, 319, 320, 321, 322, 324, 325, 326, 327, 367, 368, 389, 447, 536, 564], [31, 32, 124, 155, 293, 295, 298, 299, 300, 306, 342, 343, 383, 488, 489, 490, 491, 492, 493, 494, 496, 498, 500, 502, 503, 504, 505, 506, 507, 508, 509, 556, 557, 641], [375, 570, 571, 572, 573, 647], [567], [52, 64, 123, 134, 135, 176, 178, 179, 180, 196, 199, 204, 205, 207, 266, 267, 268, 282, 290, 294, 520, 521, 562, 620, 634, 637, 638], [99, 100, 101, 102, 103, 104, 105, 106, 107, 265, 328], [157, 160, 168, 169, 187, 200, 232, 274, 339, 377, 385, 501, 574, 642]];

Distance to [BI_c,IE_c,PR_c,PC_c] = 56843

Using Fagin's approach

Fagin 1:=[[3], [2], [1], [495], [4], [35], [83], [84], [390], [512], [37], [215], [598], [617], [5], [7], [8], [9], [10], [11], [47], [73], [170], [189], [191], [349], [583], [626], [97], [6], [17], [51], [53], [55], [74], [138], [154], [255], [256], [331], [347], [376], [420], [426], [513], [515], [532], [534], [596], [603], [622], [650], [651], [49], [334], [526], [41], [184], [289], [428], [591], [12], [56], [323], [336], [337], [338], [335], [296], [297], [302], [529], [30], [79], [301], [304], [497], [645], [203], [96], [222], [371], [519], [177], [271], [548], [14], [89], [59], [599], [429], [523], [197], [231], [499], [181], [372], [112], [145], [253], [269], [476], [212], [254], [345], [40], [80], [110], [111], [113], [114], [115], [139], [161], [171], [348], [404], [432], [479], [480], [546], [445], [13], [15], [16], [18], [19], [21], [23], [24], [29], [36], [38], [39], [42], [43], [48], [50], [54], [61], [62], [63], [67], [68], [69], [70], [71], [78], [81], [94], [116], [117], [118], [122], [128], [129], [130], [131], [158], [159], [162], [163], [164], [167], [183], [186], [194], [198], [206], [208], [209], [213], [214], [216], [217], [218], [219], [223], [224],

[225], [258], [260], [264], [270], [273], [276], [277], [278], [279], [283], [284], [287], [288], [303], [308], [309], [310], [311], [315], [329], [330], [340], [344], [346], [358], [359], [360], [361], [362], [363], [365], [366], [370], [373], [374], [378], [379], [381], [382], [386], [387], [388], [391], [392], [418], [421], [430], [431], [448], [449], [450], [451], [510], [511], [516], [517], [524], [527], [528], [530], [531], [533], [535], [547], [549], [550], [551], [552], [553], [555], [559], [560], [561], [563], [565], [566], [575], [576], [577], [578], [579], [580], [581], [584], [585], [586], [587], [588], [589], [590], [597], [601], [606], [607], [609], [610], [611], [613], [615], [621], [623], [624], [625], [627], [630], [631], [632], [633], [643], [649], [22], [25], [26], [45], [126], [182], [210], [263], [281], [305], [314], [384], [403], [514], [518], [595], [605], [640], [351], [280], [647], [286], [375], [570], [571], [572], [573], [99], [100], [101], [102], [103], [104], [105], [106], [107], [265], [328], [20], [66], [119], [132], [220], [312], [316], [317], [318], [319], [320], [321], [322], [324], [325], [326], [327], [536], [564], [120], [124], [127], [165], [229], [298], [367], [368], [383], [389], [447], [489], [494], [496], [500], [31], [32], [155], [293], [299], [300], [306], [342], [343], [488], [490], [491], [492], [493], [498], [502], [503], [504], [505], [506], [507], [508], [509], [556], [557], [641], [52], [64], [123], [134], [135], [176], [178], [179], [180], [196], [199], [204], [205], [207], [266], [267], [268], [282], [290], [294], [295], [520], [521], [562], [567], [620], [634], [637], [638], [157], [160], [168], [169], [187], [200], [232], [274], [339], [377], [385], [501], [574], [642]]

Distance to [Bl_c,IE_c,PR_c,PC_c] =132 298

Fagin 2:= [[3], [1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 29, 30, 31, 32, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 59, 61, 62, 63, 64, 66, 67, 68, 69, 70, 71, 73, 74, 78, 79, 80, 81, 83, 84, 89, 94, 96, 97, 99, 100, 101, 102, 103, 104, 105, 106, 107, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 122, 123, 124, 126, 127, 128, 129, 130, 131, 132, 134, 135, 138, 139, 145, 154, 155, 157, 158, 159, 160, 161, 162, 163, 164, 165, 167, 168, 169, 170, 171, 176, 177, 178, 179, 180, 181, 182, 183, 184, 186, 187, 189, 191, 194, 196, 197, 198, 199, 200, 203, 204, 205, 206, 207, 208, 209, 210, 212, 213, 214, 215, 216, 217, 218, 219, 220, 222, 223, 224, 225, 229, 231, 232, 253, 254, 255, 256, 258, 260, 263, 264, 265, 266, 267, 268, 269, 270, 271, 273, 274, 276, 277, 278, 279, 280, 281, 282, 283, 284, 286, 287, 288, 289, 290, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 308, 309, 310, 311, 312, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 334, 335, 336, 337, 338, 339, 340, 342, 343, 344, 345, 346, 347, 348, 349, 351, 358, 359, 360, 361, 362, 363, 365, 366, 367, 368, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 403, 404, 418, 420, 421, 426, 428, 429, 430, 431, 432, 445, 447, 448, 449, 450, 451, 476, 479, 480, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 523, 524, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 546, 547, 548, 549, 550, 551, 552, 553, 555, 556, 557, 559, 560, 561, 562, 563, 564, 565, 566, 567, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 583, 584, 585, 586, 587, 588, 589, 590, 591, 595, 596, 597, 598, 599, 601, 603, 605, 606, 607, 609, 610, 611, 613, 615, 617, 620, 621, 622, 623, 624, 625, 626, 627, 630, 631, 632, 633, 634, 637, 638, 640, 641, 642, 643, 645, 647, 649, 650, 651]]

Distance to [Bl_c,IE_c,PR_c,PC_c]=261 894

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Distance to [Bl_c,IE_c,PR_c,PC_c]=126 401