

Results for E instances (1-PDTSP)

Keld Helsgaun, November 19, 2017

| Instance | BKS | LKH-3 | Gap (%) |
|----------|-----|-------|---------|
| e025b00A | 401 | 401 | 0.00 |
| e025b00B | 460 | 460 | 0.00 |
| e025b00C | 480 | 480 | 0.00 |
| e025b00D | 464 | 464 | 0.00 |
| e025b00E | 427 | 427 | 0.00 |
| e025b00F | 464 | 464 | 0.00 |
| e025b00G | 444 | 444 | 0.00 |
| e025b00H | 449 | 449 | 0.00 |
| e025b00I | 461 | 461 | 0.00 |
| e025b00J | 421 | 421 | 0.00 |
| e050b00A | 589 | 589 | 0.00 |
| e050b00B | 599 | 599 | 0.00 |
| e050b00C | 564 | 564 | 0.00 |
| e050b00D | 600 | 600 | 0.00 |
| e050b00E | 575 | 575 | 0.00 |
| e050b00F | 565 | 565 | 0.00 |
| e050b00G | 585 | 585 | 0.00 |
| e050b00H | 610 | 610 | 0.00 |
| e050b00I | 582 | 582 | 0.00 |
| e050b00J | 595 | 595 | 0.00 |
| e075b00A | 710 | 710 | 0.00 |
| e075b00B | 658 | 658 | 0.00 |
| e075b00C | 666 | 666 | 0.00 |
| e075b00D | 676 | 676 | 0.00 |
| e075b00E | 741 | 741 | 0.00 |
| e075b00F | 694 | 694 | 0.00 |
| e075b00G | 720 | 720 | 0.00 |
| e075b00H | 684 | 684 | 0.00 |
| e075b00I | 680 | 680 | 0.00 |
| e075b00J | 709 | 709 | 0.00 |
| e100b00A | 797 | 797 | 0.00 |
| e100b00B | 789 | 789 | 0.00 |
| e100b00C | 783 | 783 | 0.00 |
| e100b00D | 823 | 823 | 0.00 |
| e100b00E | 777 | 777 | 0.00 |
| e100b00F | 766 | 766 | 0.00 |
| e100b00G | 786 | 786 | 0.00 |
| e100b00H | 780 | 780 | 0.00 |
| e100b00I | 818 | 818 | 0.00 |
| e100b00J | 798 | 798 | 0.00 |
| e150b00A | 966 | 966 | 0.00 |

| | | | |
|----------|------|------|------|
| e150b00B | 901 | 901 | 0.00 |
| e150b00C | 939 | 939 | 0.00 |
| e150b00D | 932 | 932 | 0.00 |
| e150b00E | 942 | 942 | 0.00 |
| e150b00F | 931 | 931 | 0.00 |
| e150b00G | 955 | 955 | 0.00 |
| e150b00H | 951 | 951 | 0.00 |
| e150b00I | 916 | 916 | 0.00 |
| e150b00J | 919 | 919 | 0.00 |
| e200b00A | 1049 | 1049 | 0.00 |
| e200b00B | 1100 | 1100 | 0.00 |
| e200b00C | 1090 | 1090 | 0.00 |
| e200b00D | 1081 | 1081 | 0.00 |
| e200b00E | 1057 | 1057 | 0.00 |
| e200b00F | 1087 | 1087 | 0.00 |
| e200b00G | 1095 | 1095 | 0.00 |
| e200b00H | 1100 | 1100 | 0.00 |
| e200b00I | 1072 | 1072 | 0.00 |
| e200b00J | 1058 | 1058 | 0.00 |
| e025b05A | 407 | 407 | 0.00 |
| e025b05B | 462 | 462 | 0.00 |
| e025b05C | 480 | 480 | 0.00 |
| e025b05D | 464 | 464 | 0.00 |
| e025b05E | 427 | 427 | 0.00 |
| e025b05F | 464 | 464 | 0.00 |
| e025b05G | 463 | 463 | 0.00 |
| e025b05H | 449 | 449 | 0.00 |
| e025b05I | 518 | 518 | 0.00 |
| e025b05J | 430 | 430 | 0.00 |
| e050b05A | 592 | 592 | 0.00 |
| e050b05B | 599 | 599 | 0.00 |
| e050b05C | 564 | 564 | 0.00 |
| e050b05D | 601 | 601 | 0.00 |
| e050b05E | 575 | 575 | 0.00 |
| e050b05F | 565 | 565 | 0.00 |
| e050b05G | 590 | 590 | 0.00 |
| e050b05H | 610 | 610 | 0.00 |
| e050b05I | 583 | 583 | 0.00 |
| e050b05J | 595 | 595 | 0.00 |
| e075b05A | 710 | 710 | 0.00 |
| e075b05B | 658 | 658 | 0.00 |
| e075b05C | 686 | 686 | 0.00 |
| e075b05D | 676 | 676 | 0.00 |
| e075b05E | 741 | 741 | 0.00 |
| e075b05F | 717 | 717 | 0.00 |
| e075b05G | 724 | 724 | 0.00 |

| | | | |
|----------|------|------|------|
| e075b05H | 684 | 684 | 0.00 |
| e075b05I | 680 | 680 | 0.00 |
| e075b05J | 714 | 714 | 0.00 |
| e100b05A | 797 | 797 | 0.00 |
| e100b05B | 797 | 797 | 0.00 |
| e100b05C | 783 | 783 | 0.00 |
| e100b05D | 823 | 823 | 0.00 |
| e100b05E | 777 | 777 | 0.00 |
| e100b05F | 773 | 773 | 0.00 |
| e100b05G | 789 | 789 | 0.00 |
| e100b05H | 780 | 780 | 0.00 |
| e100b05I | 820 | 820 | 0.00 |
| e100b05J | 798 | 798 | 0.00 |
| e150b05A | 967 | 967 | 0.00 |
| e150b05B | 902 | 902 | 0.00 |
| e150b05C | 939 | 939 | 0.00 |
| e150b05D | 932 | 932 | 0.00 |
| e150b05E | 942 | 942 | 0.00 |
| e150b05F | 938 | 938 | 0.00 |
| e150b05G | 955 | 955 | 0.00 |
| e150b05H | 954 | 954 | 0.00 |
| e150b05I | 916 | 916 | 0.00 |
| e150b05J | 919 | 919 | 0.00 |
| e200b05A | 1052 | 1052 | 0.00 |
| e200b05B | 1104 | 1104 | 0.00 |
| e200b05C | 1097 | 1097 | 0.00 |
| e200b05D | 1086 | 1086 | 0.00 |
| e200b05E | 1060 | 1060 | 0.00 |
| e200b05F | 1087 | 1087 | 0.00 |
| e200b05G | 1099 | 1099 | 0.00 |
| e200b05H | 1108 | 1108 | 0.00 |
| e200b05I | 1074 | 1074 | 0.00 |
| e200b05J | 1059 | 1059 | 0.00 |
| e025b10A | 412 | 412 | 0.00 |
| e025b10B | 462 | 462 | 0.00 |
| e025b10C | 480 | 480 | 0.00 |
| e025b10D | 464 | 464 | 0.00 |
| e025b10E | 427 | 427 | 0.00 |
| e025b10F | 464 | 464 | 0.00 |
| e025b10G | 453 | 453 | 0.00 |
| e025b10H | 469 | 469 | 0.00 |
| e025b10I | 461 | 461 | 0.00 |
| e025b10J | 430 | 430 | 0.00 |
| e050b10A | 597 | 597 | 0.00 |
| e050b10B | 599 | 599 | 0.00 |
| e050b10C | 564 | 564 | 0.00 |

| | | | |
|----------|------|------|------|
| e050b10D | 607 | 607 | 0.00 |
| e050b10E | 576 | 576 | 0.00 |
| e050b10F | 566 | 566 | 0.00 |
| e050b10G | 590 | 590 | 0.00 |
| e050b10H | 610 | 610 | 0.00 |
| e050b10I | 583 | 583 | 0.00 |
| e050b10J | 598 | 598 | 0.00 |
| e075b10A | 710 | 710 | 0.00 |
| e075b10B | 659 | 659 | 0.00 |
| e075b10C | 686 | 686 | 0.00 |
| e075b10D | 682 | 682 | 0.00 |
| e075b10E | 742 | 742 | 0.00 |
| e075b10F | 722 | 722 | 0.00 |
| e075b10G | 734 | 734 | 0.00 |
| e075b10H | 690 | 690 | 0.00 |
| e075b10I | 680 | 680 | 0.00 |
| e075b10J | 716 | 716 | 0.00 |
| e100b10A | 799 | 799 | 0.00 |
| e100b10B | 807 | 807 | 0.00 |
| e100b10C | 787 | 787 | 0.00 |
| e100b10D | 823 | 823 | 0.00 |
| e100b10E | 777 | 777 | 0.00 |
| e100b10F | 773 | 773 | 0.00 |
| e100b10G | 789 | 789 | 0.00 |
| e100b10H | 780 | 780 | 0.00 |
| e100b10I | 820 | 820 | 0.00 |
| e100b10J | 800 | 800 | 0.00 |
| e150b10A | 974 | 974 | 0.00 |
| e150b10B | 906 | 906 | 0.00 |
| e150b10C | 939 | 939 | 0.00 |
| e150b10D | 932 | 932 | 0.00 |
| e150b10E | 942 | 942 | 0.00 |
| e150b10F | 938 | 938 | 0.00 |
| e150b10G | 955 | 955 | 0.00 |
| e150b10H | 956 | 956 | 0.00 |
| e150b10I | 920 | 920 | 0.00 |
| e150b10J | 921 | 921 | 0.00 |
| e200b10A | 1052 | 1052 | 0.00 |
| e200b10B | 1106 | 1106 | 0.00 |
| e200b10C | 1098 | 1098 | 0.00 |
| e200b10D | 1086 | 1086 | 0.00 |
| e200b10E | 1065 | 1065 | 0.00 |
| e200b10F | 1087 | 1087 | 0.00 |
| e200b10G | 1101 | 1101 | 0.00 |
| e200b10H | 1108 | 1108 | 0.00 |
| e200b10I | 1074 | 1074 | 0.00 |

| | | | |
|----------|------|------|------|
| e200b10J | 1059 | 1059 | 0.00 |
| e025b20A | 433 | 433 | 0.00 |
| e025b20B | 462 | 462 | 0.00 |
| e025b20C | 480 | 480 | 0.00 |
| e025b20D | 478 | 478 | 0.00 |
| e025b20E | 427 | 427 | 0.00 |
| e025b20F | 495 | 495 | 0.00 |
| e025b20G | 444 | 444 | 0.00 |
| e025b20H | 469 | 469 | 0.00 |
| e025b20I | 461 | 461 | 0.00 |
| e025b20J | 435 | 435 | 0.00 |
| e050b20A | 593 | 593 | 0.00 |
| e050b20B | 599 | 599 | 0.00 |
| e050b20C | 564 | 564 | 0.00 |
| e050b20D | 610 | 610 | 0.00 |
| e050b20E | 576 | 576 | 0.00 |
| e050b20F | 566 | 566 | 0.00 |
| e050b20G | 590 | 590 | 0.00 |
| e050b20H | 626 | 626 | 0.00 |
| e050b20I | 583 | 583 | 0.00 |
| e050b20J | 604 | 604 | 0.00 |
| e075b20A | 710 | 710 | 0.00 |
| e075b20B | 663 | 663 | 0.00 |
| e075b20C | 686 | 686 | 0.00 |
| e075b20D | 683 | 683 | 0.00 |
| e075b20E | 753 | 753 | 0.00 |
| e075b20F | 730 | 730 | 0.00 |
| e075b20G | 733 | 733 | 0.00 |
| e075b20H | 698 | 698 | 0.00 |
| e075b20I | 682 | 682 | 0.00 |
| e075b20J | 717 | 717 | 0.00 |
| e100b20A | 799 | 799 | 0.00 |
| e100b20B | 811 | 811 | 0.00 |
| e100b20C | 794 | 794 | 0.00 |
| e100b20D | 827 | 827 | 0.00 |
| e100b20E | 777 | 777 | 0.00 |
| e100b20F | 773 | 773 | 0.00 |
| e100b20G | 789 | 789 | 0.00 |
| e100b20H | 780 | 780 | 0.00 |
| e100b20I | 820 | 820 | 0.00 |
| e100b20J | 812 | 812 | 0.00 |
| e150b20A | 981 | 981 | 0.00 |
| e150b20B | 910 | 910 | 0.00 |
| e150b20C | 939 | 939 | 0.00 |
| e150b20D | 933 | 933 | 0.00 |
| e150b20E | 942 | 942 | 0.00 |

| | | | |
|----------|------|------|------|
| e150b20F | 940 | 940 | 0.00 |
| e150b20G | 955 | 955 | 0.00 |
| e150b20H | 956 | 956 | 0.00 |
| e150b20I | 922 | 922 | 0.00 |
| e150b20J | 922 | 922 | 0.00 |
| e200b20A | 1054 | 1054 | 0.00 |
| e200b20B | 1106 | 1106 | 0.00 |
| e200b20C | 1098 | 1098 | 0.00 |
| e200b20D | 1086 | 1086 | 0.00 |
| e200b20E | 1065 | 1065 | 0.00 |
| e200b20F | 1092 | 1092 | 0.00 |
| e200b20G | 1104 | 1104 | 0.00 |
| e200b20H | 1110 | 1110 | 0.00 |
| e200b20I | 1074 | 1074 | 0.00 |
| e200b20J | 1064 | 1064 | 0.00 |
| e025binA | 401 | 401 | 0.00 |
| e025binB | 460 | 460 | 0.00 |
| e025binC | 482 | 482 | 0.00 |
| e025binD | 464 | 464 | 0.00 |
| e025binE | 427 | 427 | 0.00 |
| e025binF | 464 | 464 | 0.00 |
| e025binG | 467 | 467 | 0.00 |
| e025binH | 449 | 449 | 0.00 |
| e025binI | 496 | 496 | 0.00 |
| e025binJ | 421 | 421 | 0.00 |
| e050binA | 617 | 617 | 0.00 |
| e050binB | 612 | 612 | 0.00 |
| e050binC | 587 | 587 | 0.00 |
| e050binD | 612 | 612 | 0.00 |
| e050binE | 588 | 588 | 0.00 |
| e050binF | 577 | 577 | 0.00 |
| e050binG | 592 | 592 | 0.00 |
| e050binH | 610 | 610 | 0.00 |
| e050binI | 589 | 589 | 0.00 |
| e050binJ | 621 | 621 | 0.00 |
| e075binA | 723 | 723 | 0.00 |
| e075binB | 686 | 686 | 0.00 |
| e075binC | 666 | 666 | 0.00 |
| e075binD | 676 | 676 | 0.00 |
| e075binE | 742 | 742 | 0.00 |
| e075binF | 698 | 698 | 0.00 |
| e075binG | 720 | 720 | 0.00 |
| e075binH | 684 | 684 | 0.00 |
| e075binI | 689 | 689 | 0.00 |
| e075binJ | 716 | 716 | 0.00 |
| e100binA | 808 | 808 | 0.00 |

| | | | |
|----------|------|------|------|
| e100binB | 805 | 805 | 0.00 |
| e100binC | 789 | 789 | 0.00 |
| e100binD | 835 | 835 | 0.00 |
| e100binE | 777 | 777 | 0.00 |
| e100binF | 766 | 766 | 0.00 |
| e100binG | 794 | 794 | 0.00 |
| e100binH | 781 | 781 | 0.00 |
| e100binI | 818 | 818 | 0.00 |
| e100binJ | 803 | 803 | 0.00 |
| e150binA | 970 | 970 | 0.00 |
| e150binB | 901 | 901 | 0.00 |
| e150binC | 953 | 953 | 0.00 |
| e150binD | 935 | 935 | 0.00 |
| e150binE | 946 | 946 | 0.00 |
| e150binF | 932 | 932 | 0.00 |
| e150binG | 960 | 960 | 0.00 |
| e150binH | 952 | 952 | 0.00 |
| e150binI | 917 | 917 | 0.00 |
| e150binJ | 926 | 926 | 0.00 |
| e200binA | 1050 | 1050 | 0.00 |
| e200binB | 1104 | 1104 | 0.00 |
| e200binC | 1091 | 1091 | 0.00 |
| e200binD | 1089 | 1089 | 0.00 |
| e200binE | 1061 | 1061 | 0.00 |
| e200binF | 1092 | 1092 | 0.00 |
| e200binG | 1100 | 1100 | 0.00 |
| e200binH | 1109 | 1109 | 0.00 |
| e200binI | 1083 | 1083 | 0.00 |
| e200binJ | 1059 | 1059 | 0.00 |