

**Annexe électronique 3 : Identité de séquences entre les 60 séquences d'intérêt (11 séquences de CDPS caractérisées précédemment et 49 séquences de CDPS potentielles sélectionnées).**

Les identités de séquences ont été obtenues grâce à la matrice des pourcentages d'identité avec Clustal O du site EMBL-EBI.

Les CDPS rouges comme inactives dans notre test sont colorés en rouge. Les identités de séquences entre les CDPS inactives sont en rouge.

Les pourcentages d'identités de séquences entre les CDPS synthétisant le même cyclolépideptide sont colorés : gris pour cyclo(Pro-Pro), orange clair pour cyclo(Ala-Glu), orange clair pour cyclo(Leu-Glu), bleu clair pour cyclo(Leu-Leu), rouge clair pour cyclo(Tyr-Tyr), jaune pour le cyclo(Tyr-Tyr) et vert pour le cyclo(L-cystine).

|         | CDPS_20 | CDPS_25 | CDPS_18 | CDPS_19 | CDPS_21 | CDPS_23 | CDPS_24 | CDPS_26 | CDPS_28 | CDPS_29 | CDPS_30 | CDPS_31 | CDPS_32 | CDPS_33 | CDPS_34 | CDPS_35 | CDPS_36 | CDPS_37 | CDPS_38 | CDPS_39 | CDPS_40 | CDPS_41 | CDPS_42 | CDPS_43 | CDPS_44 | CDPS_45 | CDPS_46 | CDPS_47 | CDPS_48 | CDPS_49 | CDPS_50 | CDPS_51 | CDPS_52 | CDPS_53 | CDPS_54 | CDPS_55 | CDPS_56 | CDPS_57 | CDPS_58 | CDPS_59 | CDPS_60 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| CDPS_20 | 100.00  | 51.39   | 16.32   | 13.08   | 13.16   | 18.86   | 14.93   | 16.74   | 18.26   | 16.67   | 17.27   | 15.87   | 18.01   | 16.28   | 15.62   | 18.51   | 12.80   | 17.70   | 15.31   | 17.22   | 12.25   | 16.75   | 15.38   | 16.98   | 12.86   | 10.45   | 12.32   | 12.74   | 10.15   | 9.18    | 10.14   | 10.85   | 11.48   | 9.86    | 12.21   | 16.26   | 7.98    | 6.19    | 7.51    | 9.18    | 8.02    | 7.55  | 10.38 | 7.62  | 7.28  | 10.38 | 8.29  | 11.65 | 10.68 | 7.96  | 11.37 | 11.37 | 11.02 | 8.96  | 8.10  | 8.02  | 9.00  | 9.57  | 7.11  | 7.58  |       |       |
| CDPS_25 |         | 100.00  | 15.97   | 14.55   | 13.68   | 17.70   | 12.73   | 12.62   | 16.97   | 14.42   | 17.35   | 14.01   | 13.33   | 18.22   | 13.61   | 16.36   | 11.90   | 14.90   | 16.35   | 14.78   | 14.42   | 11.59   | 11.85   | 13.40   | 8.50    | 11.88   | 11.85   | 11.22   | 10.19   | 12.04   | 11.85   | 12.50   | 9.91    | 11.32   | 16.36   | 8.95    | 8.44    | 8.02    | 7.77    | 8.53    | 9.48    | 9.00  | 9.46  | 8.78  | 12.80 | 10.29 | 12.20 | 8.70  | 10.50 | 9.52  | 11.43 | 10.43 | 10.60 | 11.02 | 10.00 | 9.48  |       |       |       |       |       |       |
| CDPS_18 |         |         | 100.00  | 30.33   | 17.99   | 16.89   | 16.52   | 21.43   | 18.94   | 20.39   | 19.07   | 17.70   | 16.97   | 22.07   | 23.20   | 17.70   | 15.02   | 19.05   | 19.72   | 20.00   | 17.59   | 16.44   | 18.31   | 23.42   | 16.51   | 12.87   | 18.05   | 20.47   | 12.06   | 10.65   | 12.82   | 12.15   | 10.96   | 12.11   | 10.74   | 12.84   | 10.76   | 13.79   | 12.61   | 13.12   | 14.41   | 13.96 | 14.47 | 13.39 | 15.17 | 15.28 | 15.71 | 14.68 | 12.44 | 16.99 | 15.77 | 15.67 | 15.53 | 16.07 | 14.62 | 16.36 | 17.37 | 18.96 | 18.78 | 19.63 |       |       |
| CDPS_19 |         |         |         | 100.00  | 20.42   | 18.35   | 18.31   | 18.31   | 14.81   | 14.64   | 14.72   | 14.81   | 11.52   | 13.51   | 18.23   | 13.64   | 12.44   | 16.45   | 14.49   | 15.28   | 13.35   | 17.67   | 13.60   | 16.57   | 14.28   | 12.37   | 14.93   | 16.27   | 14.80   | 12.51   | 14.62   | 14.74   | 12.65   | 16.28   | 13.89   | 10.82   | 13.70   | 11.87   | 11.47   | 14.59   | 15.81   | 16.28 | 16.51 | 15.35 | 11.90 | 11.79 | 12.92 | 13.38 | 12.21 | 13.84 | 16.28 | 17.73 | 16.28 | 15.24 | 13.33 | 16.19 | 17.14 | 15.71 |       |       |       |       |
| CDPS_21 |         |         |         |         | 100.00  | 24.89   | 20.58   | 26.82   | 26.42   | 20.36   | 17.56   | 17.41   | 15.87   | 18.13   | 19.81   | 19.22   | 22.57   | 18.37   | 18.95   | 18.95   | 16.75   | 18.99   | 18.09   | 17.10   | 15.00   | 14.44   | 9.48    | 11.83   | 15.90   | 14.53   | 13.56   | 14.36   | 11.35   | 13.52   | 11.05   | 10.47   | 12.84   | 10.32   | 13.04   | 12.23   | 12.17   | 15.14 | 11.44 | 13.44 | 15.93 | 11.76 | 10.37 | 14.83 | 16.59 | 14.60 | 13.67 | 16.43 | 16.37 | 15.76 | 17.66 | 14.89 |       |       |       |       |       |       |
| CDPS_23 |         |         |         |         |         | 100.00  | 23.20   | 26.38   | 25.47   | 15.38   | 16.41   | 19.52   | 19.47   | 15.88   | 17.89   | 18.83   | 15.28   | 23.94   | 20.93   | 20.09   | 19.23   | 19.34   | 19.16   | 19.18   | 18.78   | 11.98   | 15.69   | 13.89   | 12.62   | 10.76   | 14.42   | 10.70   | 10.75   | 11.93   | 12.39   | 14.51   | 10.88   | 14.62   | 13.49   | 11.91   | 14.49   | 14.02 | 14.62 | 12.26 | 16.75 | 12.21 | 13.94 | 14.69 | 12.44 | 14.22 | 12.68 | 14.62 | 10.33 | 16.74 | 11.37 | 15.15 | 12.74 | 12.38 | 11.79 | 12.21 |       |       |
| CDPS_22 |         |         |         |         |         |         | 100.00  | 27.38   | 26.96   | 16.22   | 19.27   | 16.67   | 19.27   | 15.96   | 15.30   | 20.40   | 17.39   | 15.12   | 17.96   | 19.00   | 18.41   | 17.56   | 19.02   | 19.18   | 20.52   | 20.49   | 10.19   | 15.69   | 10.10   | 10.58   | 14.88   | 13.33   | 8.13    | 9.86    | 8.92    | 14.01   | 10.48   | 9.62    | 11.96   | 11.70   | 11.54   | 12.98 | 8.74  | 10.19 | 9.85  | 8.21  | 9.90  | 11.22 | 12.32 | 12.00 | 14.42 | 10.63 | 13.46 | 12.38 | 9.71  | 10.10 | 11.10 | 12.20 | 13.04 | 12.28 |       |       |
| CDPS_24 |         |         |         |         |         |         |         | 100.00  | 32.93   | 19.01   | 18.57   | 20.11   | 17.46   | 16.06   | 19.78   | 22.73   | 18.38   | 22.06   | 20.00   | 20.87   | 18.89   | 20.10   | 21.67   | 21.20   | 18.63   | 13.37   | 13.13   | 18.54   | 15.46   | 12.81   | 15.20   | 17.10   | 12.81   | 15.46   | 12.56   | 13.30   | 12.14   | 14.71   | 12.68   | 12.38   | 14.22   | 12.76 | 13.37 | 13.37 | 13.07 | 12.32 | 13.64 | 14.43 | 12.81 | 14.36 | 13.30 | 15.84 | 13.30 | 16.59 | 13.33 | 13.79 | 14.36 | 13.00 | 12.38 | 11.32 |       |       |
| CDPS_26 |         |         |         |         |         |         |         |         | 100.00  | 20.87   | 17.84   | 16.02   | 16.96   | 19.23   | 21.51   | 22.95   | 25.47   | 23.56   | 22.17   | 25.71   | 21.18   | 21.18   | 23.70   | 25.20   | 19.62   | 13.89   | 13.45   | 13.15   | 12.18   | 10.48   | 11.27   | 12.43   | 12.86   | 10.28   | 11.68   | 12.22   | 9.43    | 7.62    | 10.43   | 10.14   | 9.05    | 10.03 | 10.28 | 11.48 | 13.66 | 8.61  | 10.29 | 11.59 | 9.26  | 12.93 | 11.65 | 12.45 | 11.03 | 11.27 | 11.59 | 9.09  | 12.46 | 9.71  | 11.06 | 11.48 |       |       |
| CDPS_28 |         |         |         |         |         |         |         |         |         | 100.00  | 20.87   | 17.84   | 16.02   | 16.96   | 19.23   | 21.51   | 22.95   | 25.47   | 23.56   | 22.17   | 25.71   | 21.18   | 21.18   | 23.70   | 25.20   | 19.62   | 13.89   | 13.45   | 13.15   | 12.18   | 10.48   | 11.27   | 12.43   | 12.86   | 10.28   | 11.68   | 12.22   | 9.43    | 7.62    | 10.43   | 10.14   | 9.05  | 10.03 | 10.28 | 11.48 | 13.66 | 8.61  | 10.29 | 11.59 | 9.26  | 12.93 | 11.65 | 12.45 | 11.03 | 11.27 | 11.59 | 9.09  | 12.46 | 9.71  | 11.06 | 11.48 |       |
| CDPS_28 |         |         |         |         |         |         |         |         |         |         | 100.00  | 20.87   | 17.84   | 16.02   | 16.96   | 19.23   | 21.51   | 22.95   | 25.47   | 23.56   | 22.17   | 25.71   | 21.18   | 21.18   | 23.70   | 25.20   | 19.62   | 13.89   | 13.45   | 13.15   | 12.18   | 10.48   | 11.27   | 12.43   | 12.86   | 10.28   | 11.68   | 12.22   | 9.43    | 7.62    | 10.43   | 10.14 | 9.05  | 10.03 | 10.28 | 11.48 | 13.66 | 8.61  | 10.29 | 11.59 | 9.26  | 12.93 | 11.65 | 12.45 | 11.03 | 11.27 | 11.59 | 9.09  | 12.46 | 9.71  | 11.06 | 11.48 |
| CDPS_29 |         |         |         |         |         |         |         |         |         |         |         | 100.00  | 16.67   | 20.70   | 17.58   | 18.63   | 17.66   | 21.79   | 24.78   | 21.14   | 23.31   | 24.32   | 19.74   | 22.41   | 17.93   | 20.00   | 12.65   | 18.06   | 14.73   | 11.48   | 10.91   | 8.56    | 11.31   | 16.82   | 13.22   | 13.65   | 11.79   | 11.89   | 9.61    | 12.44   | 10.22   | 10.22 | 14.22 | 12.03 | 12.44 | 11.16 | 12.00 | 11.71 | 11.49 | 10.70 | 14.74 | 12.66 | 14.47 | 12.73 | 15.57 | 14.16 | 13.12 | 13.06 |       |       |       |       |
| CDPS_31 |         |         |         |         |         |         |         |         |         |         |         |         | 100.00  | 17.27   | 18.61   | 18.88   | 21.40   | 21.82   | 20.55   | 20.35   | 20.09   | 17.31   | 20.34   | 21.68   | 19.21   | 23.85   | 13.04   | 14.69   | 14.81   | 11.52   | 12.56   | 14.29   | 14.55   | 12.62   | 12.62   | 13.95   | 13.30   | 11.68   | 13.08   | 11.68   | 13.16   | 13.25 | 13.22 | 14.22 | 12.08 | 12.63 | 11.11 | 10.81 | 9.83  | 11.27 | 11.01 | 9.49  | 9.95  | 12.55 | 13.30 | 12.44 | 11.87 | 13.82 | 11.87 | 10.91 |       |       |
| CDPS_34 |         |         |         |         |         |         |         |         |         |         |         |         |         | 100.00  | 21.12   | 19.29   | 21.79   | 18.18   | 20.11   | 24.14   | 23.04   | 24.31   | 21.67   | 21.21   | 22.42   | 17.50   | 15.07   | 14.08   | 9.41    | 10.23   | 10.55   | 14.95   | 13.89   | 12.44   | 13.76   | 14.69   | 13.42   | 12.33   | 12.33   | 13.95   | 12.44   | 12.44 | 14.22 | 10.65 | 15.57 | 12.56 | 14.22 | 13.49 | 13.42 | 9.66  | 10.30 | 13.36 | 12.58 | 11.82 | 13.22 | 13.49 | 11.21 | 9.35  | 9.81  | 10.28 |       |       |
| CDPS_31 |         |         |         |         |         |         |         |         |         |         |         |         |         |         | 100.00  | 20.20   | 22.61   | 25.63   | 24.50   | 24.00   | 20.72   | 20.00   | 24.26   | 21.61   | 21.61   | 21.61   | 15.65   | 16.85   | 16.84   | 15.09   | 11.17   | 10.57   | 13.09   | 12.42   | 13.02   | 14.06   | 13.76   | 14.22   | 14.74   | 17.46   | 19.25   | 18.23 | 18.28 | 15.51 | 15.51 | 14.13 | 13.47 | 16.49 | 15.43 | 16.32 | 17.19 | 17.71 | 18.42 | 15.10 | 16.15 |       |       |       |       |       |       |       |
| CDPS_30 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | 100.00  | 20.20   | 22.61   | 25.63   | 24.50   | 24.00   | 20.72   | 20.00   | 24.26   | 21.61   | 21.61   | 21.61   | 15.65   | 16.85   | 16.84   | 15.09   | 11.17   | 10.57   | 13.09   | 12.42   | 13.02   | 14.06   | 13.76   | 14.22   | 14.74   | 17.46   | 19.25 | 18.23 | 18.28 | 15.51 | 15.51 | 14.13 | 13.47 | 16.49 | 15.43 | 16.32 | 17.19 | 17.71 | 18.42 | 15.10 | 16.15 |       |       |       |       |       |       |
| CDPS_30 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | 100.00  | 20.20   | 22.61   | 25.63   | 24.50   | 24.00   | 20.72   | 20.00   | 24.26   | 21.61   | 21.61   | 21.61   | 15.65   | 16.85   | 16.84   | 15.09   | 11.17   | 10.57   | 13.09   | 12.42   | 13.02   | 14.06   | 13.76   | 14.22   | 14.74   | 17.46 | 19.25 | 18.23 | 18.28 | 15.51 | 15.51 | 14.13 | 13.47 | 16.49 | 15.43 | 16.32 | 17.19 | 17.71 | 18.42 | 15.10 | 16.15 |       |       |       |       |       |
| CDPS_37 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | 100.00  | 20.20   | 22.61   | 25.63   | 24.50   | 24.00   | 20.72   | 20.00   | 24.26   | 21.61   | 21.61   | 21.61   | 15.65   | 16.85   | 16.84   | 15.09   | 11.17   | 10.57   | 13.09   | 12.42   | 13.02   | 14.06   | 13.76   | 14.22   | 14.74 | 17.46 | 19.25 | 18.23 | 18.28 | 15.51 | 15.51 | 14.13 | 13.47 | 16.49 | 15.43 | 16.32 | 17.19 | 17.71 | 18.42 | 15.10 | 16.15 |       |       |       |       |
| CDPS_37 |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         | 100.00  | 20.20   | 22.61   | 25.63   | 24.50   | 24.00   | 20.72   | 20.00   | 24.26   | 21.61   | 21.61   | 21.61   | 15.65   | 16.85   | 16.84   | 15.09   | 11.17   | 10.57   | 13.09   | 12.42   | 13.02   | 14.06   | 13.76   | 14.22 | 14.74 | 17.46 | 19.25 | 18.23 | 18.28 | 15.51 | 15.51 | 14.13 | 13.47 | 16.49 | 15.43 | 16.32 | 17.19 | 17.71 | 18.   |       |       |       |       |       |