

## Supporting Information

# A generalized energy-based fragmentation approach for computing the ground-state energies and properties of large molecules

Wei Li, Shuhua Li,\* and Yuansheng Jiang

*School of Chemistry and Chemical Engineering, Institute of Theoretical and Computational Chemistry,  
Key Laboratory of Mesoscopic Chemistry of Ministry of Education,  
Nanjing University, Nanjing, 210093, P. R. China*

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### Contents

### I. CARTESIAN COORDINATES

|   |    |   |
|---|----|---|
| <b>I. Cartesian coordinates</b>   | 1  | <b>A. Water clusters</b>                |
| A. Water clusters   | 1  |   |
| 1. (H <sub>2</sub> O) <sub>32</sub> [1]   | 1  | 1. (H <sub>2</sub> O) <sub>32</sub> [1] |
| 2. (H <sub>2</sub> O) <sub>40</sub> [2]   | 2  |   |
| 3. (H <sub>2</sub> O) <sub>48</sub> [2]   | 3  |   |
| 4. (H <sub>3</sub> O <sup>+</sup> ) <sub>5</sub> (HO <sup>-</sup> ) <sub>5</sub> (H <sub>2</sub> O) <sub>22</sub> | 4  | O -5.297633 -3.258368 -2.917500         |
| B. Ice-like water clusters  | 5  | H -4.555640 -3.526640 -3.471568         |
| 1. (H <sub>2</sub> O) <sub>32</sub>   | 5  | H -6.055243 -3.669168 -3.337921         |
| 2. (H <sub>2</sub> O) <sub>48</sub>   | 6  | O -3.588127 -2.893849 -0.229710         |
| 3. (H <sub>2</sub> O) <sub>64</sub>   | 7  | H -4.452484 -2.978549 -0.643675         |
| 4. (H <sub>2</sub> O) <sub>80</sub>   | 9  | H -2.996644 -2.777467 -0.980941         |
| 5. (H <sub>2</sub> O) <sub>96</sub> [3]   | 11 | O -3.554748 -0.454520 -2.421492         |
| C. Alanine peptides   | 14 | H -2.754291 -0.738168 -2.877459         |
| 1. $\beta$ -strand acetyl(ala) <sub>10</sub> NH <sub>2</sub> [4]  | 14 | H -4.211370 -1.089780 -2.722408         |
| 2. $3_{10}$ -helix acetyl(ala) <sub>10</sub> NH <sub>2</sub> [4]  | 14 | O -3.024122 1.063887 4.026190           |
| 3. $\alpha$ -helix acetyl(ala) <sub>10</sub> NH <sub>2</sub> [4]  | 15 | H -2.822590 1.697258 4.723008           |
| 4. $\beta$ -strand acetyl(ala) <sub>18</sub> NH <sub>2</sub> [4]  | 16 | H -3.385422 1.620990 3.330426           |
| 5. $3_{10}$ -helix acetyl(ala) <sub>18</sub> NH <sub>2</sub> [4]  | 17 | O -3.238103 4.544063 -3.257114          |
| 6. $\alpha$ -helix acetyl(ala) <sub>18</sub> NH <sub>2</sub> [4]  | 17 | H -2.759243 4.402619 -2.435988          |
| D. Proteins from protein data bank (PDB)  | 18 | H -4.116349 4.210806 -3.056105          |
| 1. $\alpha$ -conotoxin pnib (1akg) [5]  | 20 | O -2.675500 2.985631 1.319092           |
| 2. crambin (1cnr) [5]   | 22 | H -3.356776 3.394501 0.775814           |
| 3. epidermal growth factor subdomain (1fgd) [5]   | 22 | H -2.457465 2.192649 0.816724           |
| 4. $\mu$ -conotoxin giiib (1gib) [5]  | 24 | O -4.109121 2.322147 -1.327362          |
| 5. Bovine lactoferricin (1lfc) [5]  | 24 | H -3.281001 2.011155 -1.711593          |
| 6. $\alpha$ -conotoxin mii (1m2c) [5]   | 29 | H -4.668281 1.541861 -1.380198          |
| 7. $\omega$ -conotoxin mviiia (1omg) [5]  | 31 | O -0.781796 -1.971094 -1.598127         |
| 8. $\alpha$ -conotoxin pni1 (1pen) [5]  | 34 | H -0.172816 -2.130956 -0.870159         |
| 9. tertiapin (1ter) [5]   | 38 | H -0.426945 -1.176684 -2.009621         |
| 10. vacuolar targeting peptide (1vtp) [5]   | 40 | O -2.352805 -3.016056 -4.129675         |
| 11. trypsin inhibitor II (2eti) [5]   | 40 | H -1.902521 -2.362473 -4.672843         |
|   | 43 | H -1.638454 -3.366377 -3.585369         |
|   | 45 | O 0.834124 -3.761010 -3.760759          |
|   | 48 | H 1.005170 -2.866589 -3.447948          |
|   | 52 | H 1.477278 -3.879841 -4.461444          |
|   |    | O 1.020191 -4.406299 -0.533764          |
| <b>II. Complementary details</b>  | 55 | H 0.349125 -4.873497 -0.024875          |
| A. Radius of element  | 55 | H 0.755876 -4.557847 -1.447470          |
| B. Fragmentation for proteins   | 56 | O -1.350176 -4.339044 1.659902          |
|   |    | H -2.152735 -4.143643 1.166077          |
| <b>References</b>   | 57 | H -1.568078 -4.045035 2.550107          |
|   |    | O 0.697262 -1.977076 1.667690           |
|   |    | H -0.221438 -1.832216 1.916250          |
|   |    | H 0.721298 -2.920518 1.476300           |
|   |    | O -1.909568 -1.906240 3.666101          |

\*Electronic mail: shuhua@nju.edu.cn

H -2.595426 -1.253128 3.842346  
 H -1.238959 -1.699346 4.325595  
 O -0.842879 -0.165719 -4.379869  
 H -1.258131 0.636468 -4.713693  
 H 0.095368 0.022073 -4.479475  
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 H 4.792437 -1.233490 6.261513  
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 H 1.995957 2.478613 -3.820612  
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 H 1.978369 2.125582 1.513459  
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2.  $(H_2O)_{40}$  [2]

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### 3. $(H_2O)_{48}$ [2]

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 H 3.44505100 5.32478600 -1.56775100  
 H 2.93431900 3.91378300 -1.46095000  
 H 0.41919600 5.84785000 -1.71707500  
 H -0.95191500 6.46783800 -1.75155700  
 H 1.30866400 4.91720600 0.43057900  
 H 0.23628200 4.68276600 1.46261300  
 H 2.41661400 5.89385000 2.85317900  
 H 1.22568900 6.77799500 2.58172800  
 H 4.58794900 -3.72808900 3.95892200  
 H 3.56341900 -2.91831000 3.20727100  
 H 5.82103200 -2.38013100 -3.83293300  
 H 5.03799500 -1.10188600 -3.78259000  
 H 3.04930500 -1.13609900 -1.59235700  
 H 4.46141000 -1.46262300 -1.18098300  
 H 3.02981100 -0.50701700 5.49945400  
 H 3.85978200 -1.75389900 5.69836900  
 H 3.45313000 1.80917800 -3.86976300  
 H 2.75723700 0.48269700 -4.02310100  
 H 6.70623500 0.24833400 -1.93746800  
 H 5.83831500 1.08787000 -2.83397200  
 H 3.57345800 1.09664800 0.23157000  
 H 3.93315000 1.49389000 -1.17582900  
 H 3.58890300 0.05941400 2.94215200  
 H 2.65287000 1.16301000 3.35665500  
 H 5.61437000 4.07270200 -2.24692300  
 H 6.09638500 3.30860400 -1.04294300  
 H 4.25668800 4.26612300 0.74766000  
 H 3.28787900 3.39160000 1.50448800  
 H 4.28200700 2.78452700 4.27400400

4.  $(H_3O^+)_5(HO^-)_5(H_2O)_{22}$

O -5.29763300 -3.25836800 -2.91750000  
 O -3.58812700 -2.89384900 -0.22971000  
 O -3.55474800 -0.45452000 -2.42149200  
 O -3.02412200 1.06388700 4.02619000  
 O -3.23810300 4.54406300 -3.25711400  
 O -2.67550000 2.98563100 1.31909200  
 O -4.10912100 2.32214700 -1.32736200  
 O -0.78179600 -1.97109400 -1.59812700  
 O -2.35280500 -3.01605600 -4.12967500  
 O 0.83412400 -3.76101000 -3.76075900  
 O 1.02019100 -4.40629900 -0.53376400  
 O -1.35017600 -4.33904400 1.65990200  
 O 0.69726200 -1.97707600 1.66769000  
 O -1.90956800 -1.90624000 3.66610100

O -0.84287900 -0.16571900 -4.37986900  
 O 0.91932500 0.31161500 -0.42247600  
 O -2.19813800 -0.22373800 0.72503600  
 O 1.05467600 -1.03904900 4.74788700  
 O -0.05124300 1.29018500 2.60737400  
 O -0.91857800 2.71396400 -1.70367100  
 O -1.22503600 3.04206100 -5.00565500  
 O 0.41356700 4.14616700 0.93423600  
 O -2.26427400 4.03784800 4.41160300  
 O 0.89977200 4.11870100 4.00638400  
 O 3.27976800 -2.00038100 -0.35266700  
 O 2.27275600 -0.84535900 -3.20612700  
 O 3.56422200 -0.76920000 2.60009600  
 O 4.09972600 -0.80588200 5.75415100  
 O 2.22763800 3.05924800 -1.53154600  
 O 1.70382000 1.86921400 -4.50787100  
 O 2.93900200 2.14233900 1.44404900  
 O 2.86720700 1.86606200 4.61018100  
 H 3.31066300 1.54439100 5.40060800  
 H -4.48178407 -3.45424817 -3.38399917  
 H -6.13064131 -3.61173720 -3.23816706  
 H -4.45248400 -2.97854900 -0.64367500  
 H -2.99664400 -2.77746700 -0.98094100  
 H -2.75429100 -0.73816800 -2.87745900  
 H -4.21137000 -1.08978000 -2.72240800  
 H -3.38542200 1.62099000 3.33042600  
 H -2.75924300 4.40261900 -2.43598800  
 H -4.11634900 4.21080600 -3.05610500  
 H -3.35677600 3.39450100 0.77581400  
 H -2.45746500 2.19264900 0.81672400  
 H -3.23521837 2.14766795 -1.68436516  
 H -4.77124933 1.62709776 -1.31773789  
 H -0.17281600 -2.13095600 -0.87015900  
 H -0.42694500 -1.17668400 -2.00962100  
 H -1.90252100 -2.36247300 -4.67284300  
 H -1.63845400 -3.36637700 -3.58536900  
 H 1.00517000 -2.86658900 -3.44794800  
 H 0.34912500 -4.87349700 -0.02487500  
 H 0.75587600 -4.55784700 -1.44747000  
 H -2.15273500 -4.14364300 1.16607700  
 H -1.56807800 -4.04503500 2.55010700  
 H -0.18108934 -1.69525066 1.93353469  
 H 0.86004459 -2.89722999 1.44764805  
 H -2.59542600 -1.25312800 3.84234600  
 H -1.23895900 -1.69934600 4.32559500  
 H -1.25813100 0.63646800 -4.71369300  
 H 0.09536800 0.02207300 -4.47947500  
 H 0.21409300 0.40997700 0.22796900  
 H -2.41149000 -0.43127200 -0.19152700  
 H -2.63232300 -0.93516000 1.20828700  
 H 1.67468600 -1.02420800 5.48334500  
 H 1.57170900 -1.41727200 4.02816200  
 H -0.99223074 1.28190455 2.41744372  
 H 0.33323356 0.60464822 3.15857006  
 H -0.22906900 2.04403700 -1.76897500  
 H -0.50016400 3.39137300 -1.16234500  
 H -1.89138300 3.65845800 -5.32407000  
 H -1.26890900 3.16425100 -4.05171200

H 0.68721900 4.73672100 1.64253300  
 H -2.30395000 4.09527100 3.45301600  
 H -1.44625500 4.49203400 4.63076700  
 H 0.69481700 3.17928100 3.94330000  
 H 1.72309600 4.12021300 4.50302000  
 H 2.78405128 -2.79634642 -0.14698767  
 H 3.49743671 -1.79258597 -1.26428181  
 H 2.00141000 -0.18626400 -2.55746800  
 H 2.62186000 -0.30628400 -3.92382100  
 H 3.17204200 -1.41697300 2.00287000  
 H 3.85494400 -0.07906200 1.99408300  
 H 4.35022700 -0.97189700 4.83830000  
 H 2.53703900 2.33191400 -0.98146900  
 H 2.06494700 3.75612100 -0.88861800  
 H 1.11872900 2.41071100 -5.04785800  
 H 1.99595700 2.47861300 -3.82061200  
 H 3.20715400 2.63104700 2.22679400  
 H 1.97836900 2.12558200 1.51345900  
 H 2.70115200 1.05695900 4.11498600  
 H -5.28047362 -2.70911862 -2.13033377  
 H -4.32089530 3.19167529 -0.97998296  
 H 1.41283075 -1.33874734 1.62188726  
 H 0.50526818 1.98400223 2.24610823  
 H 3.55781601 -1.41221062 0.35326848

## B. Ice-like water clusters

### 1. $(H_2O)_{32}$

O 0.02750038 1.32388057 8.27761339  
 H 0.02749115 2.26670075 7.94427047  
 H -0.78901046 0.85247847 7.94427047  
 O 0.02750038 3.91664095 7.36093417  
 H 0.02750960 3.91664628 6.36092047  
 H 0.84401122 4.38805370 7.69426202  
 O 2.27289673 5.21302114 8.27761339  
 H 2.27290596 6.15584132 7.94427047  
 H 3.08940757 4.74161904 7.94427047  
 O 2.27289673 7.80578152 7.36093417  
 H 1.45639512 8.27719960 7.69427709  
 H 3.08939835 8.27719960 7.69427709  
 O 0.02750038 9.10216171 8.27761339  
 H 0.02749115 10.04498189 7.94427047  
 H -0.78901046 8.63075961 7.94427047  
 O 0.02750038 11.69492209 7.36093417  
 H 0.84400199 12.16634017 7.69427709  
 H -0.78900124 12.16634017 7.69427709  
 O 4.51829309 1.32388057 8.27761339  
 H 5.33480393 0.85247847 7.94427047  
 H 4.51830231 2.26670075 7.94427047  
 O 4.51829309 3.91664095 7.36093417  
 H 4.51830231 3.91664628 6.36092047  
 H 5.33480393 4.38805370 7.69426202  
 O 6.76368945 5.21302114 8.27761339  
 H 7.58020029 4.74160839 7.94428554  
 H 6.76369867 5.21301581 9.27762709

O 6.76368945 7.80578152 7.36093417  
 H 6.76368022 6.86296134 7.69427709  
 H 5.94717860 8.27718362 7.69427709  
 O 4.51829309 9.10216171 8.27761339  
 H 4.51829309 10.04498722 7.94428554  
 H 4.51829309 9.10217236 9.27762709  
 O 4.51829309 11.69492209 7.36093417  
 H 3.70179147 12.16634017 7.69427709  
 H 5.33479471 12.16634017 7.69427709  
 O 9.00908580 1.32388057 8.27761339  
 H 9.82559664 0.85247847 7.94427047  
 H 9.00909503 2.26670075 7.94427047  
 O 9.00908580 3.91664095 7.36093417  
 H 9.00909503 3.91664628 6.36092047  
 H 9.82559664 4.38805370 7.69426202  
 O 9.00908580 9.10216171 8.27761339  
 H 8.19257496 8.63074896 7.94428554  
 H 9.00907658 9.10215639 9.27762709  
 O 9.00908580 11.69492209 7.36093417  
 H 9.00908580 11.69491144 6.36092047  
 H 9.00908580 10.75209659 7.69426202  
 O 0.02750038 1.32388057 11.02765106  
 H 0.02749115 1.32387524 10.02763736  
 H -0.78901046 0.85246781 11.36097892  
 O 0.02750038 3.91664095 11.94433029  
 H 0.02750960 2.97382077 11.61098737  
 H 0.84401122 4.38804305 11.61098737  
 O 2.27289673 5.21302114 11.02765106  
 H 2.27289673 5.21303179 10.02763736  
 H 2.27289673 6.15584665 11.36097892  
 O 2.27289673 7.80578152 11.94433029  
 H 2.27290596 7.80578685 12.94434399  
 H 3.08940757 8.27719428 11.61100243  
 O 0.02750038 9.10216171 11.02765106  
 H 0.02750960 9.10215639 10.02763736  
 H 0.84401122 8.63074896 11.36097892  
 O 0.02750038 11.69492209 11.94433029  
 H 0.02750960 10.75210191 11.61098737  
 H 0.84401122 12.16632420 11.61098737  
 O 4.51829309 1.32388057 11.02765106  
 H 4.51830231 1.32387524 10.02763736  
 H 5.33480393 0.85246781 11.36097892  
 O 4.51829309 3.91664095 11.94433029  
 H 3.70178225 4.38804305 11.61098737  
 H 4.51828386 2.97382077 11.61098737  
 O 6.76368945 5.21302114 11.02765106  
 H 5.94718783 4.74160306 11.36099398  
 H 7.58019106 4.74160306 11.36099398  
 O 6.76368945 7.80578152 11.94433029  
 H 6.76368945 7.80577087 12.94434399  
 H 6.76368945 6.86295601 11.61100243  
 O 4.51829309 9.10216171 11.02765106  
 H 5.33480393 8.63075961 11.36099398  
 H 4.51830231 10.04498189 11.36099398  
 O 4.51829309 11.69492209 11.94433029  
 H 4.51830231 11.69492742 12.94434399  
 H 5.33480393 12.16633485 11.61100243  
 O 9.00908580 1.32388057 11.02765106

H 9.00908580 1.32389122 10.02763736  
 H 9.00908580 2.26670608 11.36097892  
 O 9.00908580 3.91664095 11.94433029  
 H 9.00909503 3.91664628 12.94434399  
 H 9.82559664 4.38805370 11.61100243  
 O 9.00908580 9.10216171 11.02765106  
 H 8.19258419 8.63074363 11.36099398  
 H 9.82558742 8.63074363 11.36099398  
 O 9.00908580 11.69492209 11.94433029  
 H 9.00909503 10.75210191 11.61098737  
 H 9.82559664 12.16632420 11.61098737

## 2. $(H_2O)_{48}$

O 0.02750038 1.32388057 3.69421727  
 H 0.84400199 0.85246249 4.02756019  
 H -0.78900124 0.85246249 4.02756019  
 O 0.02750038 3.91664095 4.61089650  
 H 0.02749115 2.97382077 4.27755358  
 H -0.78901046 4.38804305 4.27755358  
 O 2.27289673 5.21302114 3.69421727  
 H 1.45638589 4.74161904 4.02756019  
 H 2.27288751 6.15584132 4.02756019  
 O 2.27289673 7.80578152 4.61089650  
 H 3.08940757 8.27719428 4.27756864  
 H 2.27290596 7.80578685 5.61091020  
 O 0.02750038 9.10216171 3.69421727  
 H 0.84401122 8.63075961 4.02756019  
 H 0.02750960 10.04498189 4.02756019  
 O 0.02750038 11.69492209 4.61089650  
 H 0.84401122 12.16633485 4.27756864  
 H 0.02750960 11.69492742 5.61091020  
 O 4.51829309 1.32388057 3.69421727  
 H 4.51828386 1.32387524 2.69420357  
 H 3.70178225 0.85246781 4.02754513  
 O 4.51829309 3.91664095 4.61089650  
 H 3.70178225 4.38804305 4.27755358  
 H 4.51828386 2.97382077 4.27755358  
 O 6.76368945 5.21302114 3.69421727  
 H 6.76368022 5.21301581 2.69420357  
 H 5.94717860 4.74160839 4.02754513  
 O 6.76368945 7.80578152 4.61089650  
 H 6.76368945 6.86295601 4.27756864  
 H 6.76368945 7.80577087 5.61091020  
 O 4.51829309 9.10216171 3.69421727  
 H 5.33480393 8.63075961 4.02756019  
 H 4.51830231 10.04498189 4.02756019  
 O 4.51829309 11.69492209 4.61089650  
 H 5.33480393 12.16633485 4.27756864  
 H 4.51830231 11.69492742 5.61091020  
 O 9.00908580 1.32388057 3.69421727  
 H 8.19257496 0.85247847 4.02756019  
 H 9.00907658 2.26670075 4.02756019  
 O 9.00908580 3.91664095 4.61089650  
 H 8.19258419 4.38805903 4.27755358  
 H 9.82558742 4.38805903 4.27755358

O 9.00908580 9.10216171 3.69421727  
 H 9.00907658 9.10215639 2.69420357  
 H 8.19257496 8.63074896 4.02754513  
 O 9.00908580 11.69492209 4.61089650  
 H 8.19257496 12.16632420 4.27755358  
 H 9.00907658 10.75210191 4.27755358  
 O 0.02750038 1.32388057 8.27761339  
 H 0.02749115 2.26670075 7.94427047  
 H -0.78901046 0.85247847 7.94427047  
 O 0.02750038 3.91664095 7.36093417  
 H 0.02750960 3.91664628 6.36092047  
 H 0.84401122 4.38805370 7.69426202  
 O 2.27289673 5.21302114 8.27761339  
 H 2.27290596 6.15584132 7.94427047  
 H 3.08940757 4.74161904 7.94427047  
 O 2.27289673 7.80578152 7.36093417  
 H 1.45639512 8.27719960 7.69427709  
 H 3.08939835 8.27719960 7.69427709  
 O 0.02750038 9.10216171 8.27761339  
 H 0.02749115 10.04498189 7.94427047  
 H -0.78901046 8.63075961 7.94427047  
 O 0.02750038 11.69492209 7.36093417  
 H 0.84400199 12.16634017 7.69427709  
 H -0.78900124 12.16634017 7.69427709  
 O 4.51829309 1.32388057 8.27761339  
 H 5.33480393 0.85247847 7.94427047  
 H 4.51830231 2.26670075 7.94427047  
 O 4.51829309 3.91664095 7.36093417  
 H 4.51830231 3.91664628 6.36092047  
 H 5.33480393 4.38805370 7.69426202  
 O 6.76368945 5.21302114 8.27761339  
 H 7.58020029 4.74160839 7.94428554  
 H 6.76369867 5.21301581 9.27762709  
 O 6.76368945 7.80578152 7.36093417  
 H 6.76368022 6.86296134 7.69427709  
 H 5.94717860 8.27718362 7.69427709  
 O 4.51829309 9.10216171 8.27761339  
 H 4.51829309 10.04498722 7.94428554  
 H 4.51829309 9.10217236 9.27762709  
 O 4.51829309 11.69492209 7.36093417  
 H 3.70179147 12.16634017 7.69427709  
 H 5.33479471 12.16634017 7.69427709  
 O 9.00908580 1.32388057 8.27761339  
 H 9.82559664 0.85247847 7.94427047  
 H 9.00909503 2.26670075 7.94427047  
 O 9.00908580 3.91664095 7.36093417  
 H 9.00909503 3.91664628 6.36092047  
 H 9.82559664 4.38805370 7.69426202  
 O 9.00908580 9.10216171 8.27761339  
 H 8.19257496 8.63074896 7.94428554  
 H 9.00907658 9.10215639 9.27762709  
 O 9.00908580 11.69492209 7.36093417  
 H 9.00908580 11.69491144 6.36092047  
 H 9.00908580 10.75209659 7.69426202  
 O 0.02750038 1.32388057 11.02765106  
 H 0.02749115 1.32387524 10.02763736  
 H -0.78901046 0.85246781 11.36097892  
 O 0.02750038 3.91664095 11.94433029

H 0.02750960 2.97382077 11.61098737  
 H 0.84401122 4.38804305 11.61098737  
 O 2.27289673 5.21302114 11.02765106  
 H 2.27289673 5.21303179 10.02763736  
 H 2.27289673 6.15584665 11.36097892  
 O 2.27289673 7.80578152 11.94433029  
 H 2.27290596 7.80578685 12.94434399  
 H 3.08940757 8.27719428 11.61100243  
 O 0.02750038 9.10216171 11.02765106  
 H 0.02750960 9.10215639 10.02763736  
 H 0.84401122 8.63074896 11.36097892  
 O 0.02750038 11.69492209 11.94433029  
 H 0.02750960 10.75210191 11.61098737  
 H 0.84401122 12.16632420 11.61098737  
 O 4.51829309 1.32388057 11.02765106  
 H 4.51830231 1.32387524 10.02763736  
 H 5.33480393 0.85246781 11.36097892  
 O 4.51829309 3.91664095 11.94433029  
 H 3.70178225 4.38804305 11.61098737  
 H 4.51828386 2.97382077 11.61098737  
 O 6.76368945 5.21302114 11.02765106  
 H 5.94718783 4.74160306 11.36099398  
 H 7.58019106 4.74160306 11.36099398  
 O 6.76368945 7.80578152 11.94433029  
 H 6.76368945 7.80577087 12.94434399  
 H 6.76368945 6.86295601 11.61100243  
 O 4.51829309 9.10216171 11.02765106  
 H 5.33480393 8.63075961 11.36099398  
 H 4.51830231 10.04498189 11.36099398  
 O 4.51829309 11.69492209 11.94433029  
 H 4.51830231 11.69492742 12.94434399  
 H 5.33480393 12.16633485 11.61100243  
 O 9.00908580 1.32388057 11.02765106  
 H 9.00908580 1.32389122 10.02763736  
 H 9.00908580 2.26670608 11.36097892  
 O 9.00908580 3.91664095 11.94433029  
 H 9.00909503 3.91664628 12.94434399  
 H 9.82559664 4.38805370 11.61100243  
 O 9.00908580 9.10216171 11.02765106  
 H 8.19258419 8.63074363 11.36099398  
 H 9.82558742 8.63074363 11.36099398  
 O 9.00908580 11.69492209 11.94433029  
 H 9.00909503 10.75210191 11.61098737  
 H 9.82559664 12.16632420 11.61098737

### 3. $(H_2O)_{64}$

O 0.02750038 1.32388057 0.94417960  
 H -0.78901046 0.85246781 0.61085174  
 H 0.02749115 1.32387524 1.94419330  
 O 0.02750038 3.91664095 0.02750038  
 H 0.02750038 2.97381544 0.36082823  
 H 0.02750038 3.91663030 -0.97251332  
 O 2.27289673 5.21302114 0.94417960  
 H 1.45638589 4.74160839 0.61085174  
 H 2.27288751 5.21301581 1.94419330

O 2.27289673 7.80578152 0.02750038  
 H 2.27288751 6.86296134 0.36084330  
 H 1.45638589 8.27718362 0.36084330  
 O 0.02750038 9.10216171 0.94417960  
 H -0.78901046 8.63074896 0.61085174  
 H 0.02749115 9.10215639 1.94419330  
 O 0.02750038 11.69492209 0.02750038  
 H 0.02750038 10.75209659 0.36082823  
 H 0.02750038 11.69491144 -0.97251332  
 O 4.51829309 1.32388057 0.94417960  
 H 3.70178225 0.85247847 0.61083668  
 H 4.51828386 2.26670075 0.61083668  
 O 4.51829309 3.91664095 0.02750038  
 H 3.70178225 4.38805370 0.36082823  
 H 4.51828386 3.91664628 -0.97251332  
 O 6.76368945 5.21302114 0.94417960  
 H 5.94717860 4.74161904 0.61083668  
 H 6.76368022 6.15584132 0.61083668  
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 O 9.00908580 11.69492209 11.94433029  
 H 9.00909503 10.75210191 11.61098737  
 H 9.82559664 12.16632420 11.61098737

5.  $(H_2O)_{96}$  [3]

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 O 0.02750038 1.32388057 0.94417960  
 H -0.78901046 0.85246781 0.61085174  
 H 0.02749115 1.32387524 1.94419330  
 O 0.02750038 3.91664095 0.02750038  
 H 0.02750038 2.97381544 0.36082823  
 H 0.02750038 3.91663030 -0.97251332  
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 H 2.27288751 13.93412247 0.61083668  
 H 1.45638589 12.51990018 0.61083668  
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 H 6.76368022 -0.91531980 0.36084330  
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 O 4.51829309 3.91664095 0.02750038

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 H 4.51828386 3.91664628 -0.97251332  
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 H 4.51830231 11.69492742 5.61091020  
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 O 9.00908580 11.69492209 4.61089650  
 H 8.19257496 12.16632420 4.27755358  
 H 9.00907658 10.75210191 4.27755358  
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 H 12.07098377 12.51988420 4.02756019  
 H 10.43798054 12.51988420 4.02756019  
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 H 1.45639512 0.49891846 7.69427709  
 H 3.08939835 0.49891846 7.69427709

O 0.02750038 1.32388057 8.27761339  
 H 0.02749115 2.26670075 7.94427047  
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 O 0.02750038 3.91664095 7.36093417  
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 H 0.02749115 1.32387524 10.02763736  
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 H 0.02750960 9.10215639 10.02763736  
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 H 4.51830231 1.32387524 10.02763736  
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 H 9.00909503 10.75210191 11.61098737  
 H 9.82559664 12.16632420 11.61098737  
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C 0.133253 0.324462 0.240563  
 O 0.341887 1.390771 0.829480  
 N -1.091124 -0.096697 -0.142897  
 H -1.241189 -0.979649 -0.627833  
 C -2.324901 0.637335 0.147437  
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 O -3.265140 -1.409857 -0.769241  
 N -4.711386 0.072353 0.191606  
 H -4.869242 0.959048 0.667055  
 C -5.938254 -0.676819 -0.089176  
 C -7.105862 0.292953 0.239003  
 O -6.897634 1.371495 0.805053  
 N -8.330430 -0.134822 -0.137526  
 H -8.480518 -1.027734 -0.603534  
 C -9.562568 0.608329 0.135623  
 C -10.723596 -0.373557 -0.178137  
 O -10.510318 -1.456246 -0.733433  
 N -11.950764 0.049539 0.197711  
 H -12.104313 0.945132 0.656653  
 C -13.176828 -0.707539 -0.063903  
 C -14.346138 0.267324 0.236098  
 O -14.146768 1.357749 0.780620  
 N -15.570334 -0.169113 -0.139310  
 H -15.716627 -1.072551 -0.584543  
 C -16.798422 0.582414 0.121123  
 C -17.966199 -0.397434 -0.161175  
 O -17.774663 -1.490702 -0.687448  
 N -19.198694 0.034879 0.228478  
 C 15.663972 -1.801296 0.658395  
 H 15.730442 -0.777389 -1.198517  
 C 11.990453 2.037674 -0.627503  
 H 12.118152 0.955001 1.194242  
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 H 8.508525 -0.799291 -1.211460  
 C 4.752962 1.981212 -0.597711  
 H 4.884205 0.896862 1.223519  
 C 1.160380 -1.936014 0.643179  
 H 1.272324 -0.864276 -1.186861  
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 H -2.353076 0.874889 1.221431  
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 H -5.964988 -0.926796 -1.160393  
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 H -9.589242 0.871913 1.203596  
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 H -13.201472 -0.986772 -1.127939  
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 H -16.819394 0.872425 1.182673  
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 H 14.750137 -2.360802 0.342818  
 H 15.601219 -1.605248 1.755875  
 H 12.878435 2.693739 -0.440425  
 H 11.078587 2.573061 -0.267194  
 H 11.897028 1.873976 -1.728205  
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 H 7.503518 -2.441993 0.246476  
 H 8.312839 -1.733827 1.708179  
 H 5.644083 2.634609 -0.416101

### C. Alanine peptides

#### 1. $\beta$ -strand acetyl(ala)<sub>10</sub>NH<sub>2</sub> [4]

C 19.402172 0.699285 0.029799  
 C 18.238889 -0.208126 -0.288508  
 O 18.412171 -1.275953 -0.881556  
 N 17.007717 0.238073 0.111294  
 H 16.889771 1.106059 0.626212  
 C 15.781659 -0.518634 -0.130092  
 C 14.609950 0.433887 0.225555  
 O 14.798597 1.489028 0.839493  
 N 13.389367 0.012283 -0.179811  
 H 13.253932 -0.855679 -0.693441  
 C 12.151384 0.734404 0.116665  
 C 10.994941 -0.236568 -0.242392  
 O 11.208976 -1.286924 -0.856628  
 N 9.767987 0.160193 0.162951  
 H 9.613295 1.028097 0.672244  
 C 8.541805 -0.583275 -0.133026  
 C 7.371989 0.369421 0.234049  
 O 7.576818 1.425989 0.841386  
 N 6.148317 -0.048264 -0.157047  
 H 6.001282 -0.921822 -0.659358  
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 C 3.755818 -0.294678 -0.209909  
 O 3.974854 -1.352620 -0.809871  
 N 2.527970 0.107973 0.182746  
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 C 1.301429 -0.636741 -0.110719

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 H 1.060607 -1.765460 1.742313  
 H -1.589859 2.582218 -0.448932  
 H -3.388704 2.475027 -0.261706  
 H -2.584436 1.745305 -1.715572  
 H -5.184335 -2.607927 0.527880  
 H -6.984345 -2.519585 0.342037  
 H -6.184961 -1.766207 1.786527  
 H -8.824566 2.537301 -0.506991  
 H -10.623617 2.437236 -0.317715  
 H -9.820064 1.671802 -1.753529  
 H -12.423819 -2.621913 0.604152  
 H -14.223838 -2.537796 0.416837  
 H -13.423435 -1.746641 1.840479  
 H -16.059392 2.493214 -0.575663  
 H -17.856680 2.403536 -0.371434  
 H -17.065702 1.599371 -1.792936  
 H -19.346725 0.953517 0.621320  
 H -19.999726 -0.542620 0.010082  
 H 19.496293 0.847917 1.132449  
 H 20.340084 0.227643 -0.352574  
 H 19.272350 1.693968 -0.460793

2.  $3_{10}$ -helix acetyl(ala) $_{10}$ NH $_2$  [4]

C -10.564903 -0.552887 -2.122609  
 C -9.373722 0.097093 -1.476607  
 O -8.225039 -0.185696 -1.831842  
 N -9.628469 0.995523 -0.465759  
 H -10.594068 1.253579 -0.295692  
 C -8.558263 1.896287 0.017721  
 H -8.072675 2.365936 -0.848328  
 C -7.401487 1.159534 0.738413  
 O -6.283005 1.680074 0.789355  
 C -9.086481 2.976176 0.924896  
 H -8.229172 3.606928 1.272287  
 H -9.810359 3.633203 0.382825  
 H -9.596684 2.552362 1.824232  
 N -7.685249 -0.049394 1.280790  
 H -8.613687 -0.432129 1.155182  
 C -6.627908 -0.874771 1.894669  
 H -6.121526 -0.276403 2.662228  
 C -5.492476 -1.262499 0.907145  
 O -4.382480 -1.572282 1.358355  
 C -7.168570 -2.126406 2.532973  
 H -6.313351 -2.709747 2.959340  
 H -7.875500 -1.876872 3.361850  
 H -7.701081 -2.774633 1.794736  
 N -5.774397 -1.218431 -0.415016  
 H -6.680855 -0.896200 -0.752607  
 C -4.715473 -1.459532 -1.412335  
 H -4.225613 -2.414545 -1.184777  
 C -3.560837 -0.423092 -1.345067

O -2.446996 -0.720349 -1.796055  
 C -5.255570 -1.507424 -2.816986  
 H -4.399475 -1.569993 -3.534225  
 H -5.904372 -2.406990 -2.955548  
 H -5.864364 -0.600978 -3.060940  
 N -3.830113 0.767491 -0.758217  
 H -4.740770 0.954486 -0.340812  
 C -2.757703 1.752103 -0.535768  
 H -2.241569 1.934322 -1.486876  
 C -1.633244 1.238912 0.404429  
 O -0.513367 1.766188 0.360152  
 C -3.283873 3.059979 -0.006029  
 H -2.420168 3.717635 0.263464  
 H -3.897731 3.576977 -0.783876  
 H -3.923678 2.915291 0.900496  
 N -1.932625 0.202887 1.222393  
 H -2.846816 -0.247265 1.191771  
 C -0.885824 -0.430414 2.041451  
 H -0.375715 0.344990 2.627008  
 C 0.254879 -1.067749 1.201950  
 O 1.360262 -1.263077 1.725829  
 C -1.444255 -1.466409 2.981156  
 H -0.597289 -2.001814 3.478009  
 H -2.071568 -0.980661 3.768309  
 H -2.080378 -2.215174 2.445406  
 N -0.014033 -1.359533 -0.092168  
 H -0.919542 -1.139345 -0.506163  
 C 1.054269 -1.831310 -0.989664  
 H 1.548189 -2.696798 -0.530070  
 C 2.204832 -0.803807 -1.174031  
 O 3.318889 -1.195740 -1.546438  
 C 0.527585 -2.228710 -2.343487  
 H 1.390572 -2.450554 -3.019381  
 H -0.107427 -3.144730 -2.261073  
 H -0.092568 -1.418758 -2.803509  
 N 1.929271 0.491840 -0.893422  
 H 1.015932 0.773304 -0.537724  
 C 2.995988 1.506243 -0.916513  
 H 3.528106 1.437463 -1.873853  
 C 4.109123 1.263214 0.140076  
 O 5.216146 1.795902 -0.008819  
 C 2.459006 2.903670 -0.751984  
 H 3.317001 3.612702 -0.642430  
 H 1.861766 3.199739 -1.648976  
 H 1.799199 2.992787 0.147543  
 N 3.809894 0.446075 1.178300  
 H 2.901929 -0.012702 1.243866  
 C 4.847347 0.050896 2.144313  
 H 5.361746 0.954017 2.496945  
 C 5.989489 -0.801663 1.521803  
 O 7.064927 -0.908644 2.124831  
 C 4.276145 -0.684299 3.328321  
 H 5.116713 -1.076064 3.953368  
 H 3.655816 0.004456 3.952558  
 H 3.629650 -1.541797 3.013206  
 N 5.744534 -1.374669 0.319618  
 H 4.852478 -1.236887 -0.153331  
 C 6.805687 -2.077360 -0.420609

H 7.340725 -2.730418 0.280903  
 C 7.923231 -1.146547 -0.981010  
 O 8.944364 -1.648599 -1.451817  
 C 6.257306 -2.910400 -1.549359  
 H 7.109593 -3.308183 -2.154822  
 H 5.668485 -3.771598 -1.149058  
 H 5.587176 -2.313729 -2.218369  
 N 7.706682 0.192424 -0.876607  
 H 6.816872 0.551743 -0.538463  
 C 8.744657 1.174263 -1.210644  
 H 9.455653 0.678304 -1.883590  
 C 9.597182 1.631352 0.010401  
 O 10.494072 2.461915 -0.139077  
 C 8.192315 2.403846 -1.885306  
 H 9.013555 3.153756 -2.004909  
 H 7.787582 2.149021 -2.894824  
 H 7.369418 2.865960 -1.284004  
 N 9.298100 1.059771 1.208484  
 H 8.580041 0.352954 1.334176  
 H 9.878510 1.315321 1.995080  
 H -11.068082 0.180893 -2.799634  
 H -10.215931 -1.421632 -2.733908  
 H -11.302760 -0.916689 -1.367816

### 3. $\alpha$ -helix acetyl(ala)<sub>10</sub>NH<sub>2</sub> [4]

C -8.239178 -1.239415 -1.849390  
 C -7.289526 -0.112832 -1.349117  
 N -7.768934 0.677662 -0.355326  
 C -6.898097 1.681692 0.289336  
 C -5.722158 1.024159 1.062348  
 N -6.045801 -0.037551 1.840157  
 C -4.995280 -0.799732 2.546067  
 C -3.937454 -1.381896 1.565064  
 N -4.423288 -1.977479 0.451115  
 C -3.511087 -2.525930 -0.570582  
 C -2.596532 -1.433243 -1.192399  
 N -3.197243 -0.266752 -1.516998  
 C -2.420093 0.864976 -2.057113  
 C -1.323502 1.352033 -1.068638  
 N -1.689448 1.450233 0.228669  
 C -0.706534 1.834547 1.258659  
 C 0.454186 0.806459 1.377799  
 N 0.097849 -0.496251 1.317816  
 C 1.119921 -1.557170 1.356598  
 C 2.110637 -1.467606 0.163104  
 N 1.562794 -1.258255 -1.055642  
 C 2.426637 -1.143250 -2.243572  
 C 3.320291 0.129860 -2.224056  
 N 2.739554 1.256871 -1.747976  
 C 3.483362 2.526693 -1.730182  
 C 4.597958 2.593503 -0.646573  
 N 4.380531 1.856937 0.479717  
 C 5.340075 1.890839 1.591872  
 C 6.364289 0.718797 1.606011  
 N 6.010501 -0.407119 0.918153

C 6.837892 -1.620011 0.969901  
 C 7.327156 -2.124924 -0.414444  
 N 6.938388 -1.410182 -1.502735  
 O -6.191690 0.045175 -1.887421  
 C -7.664284 2.586768 1.215775  
 O -4.573459 1.458553 0.945776  
 C -5.570207 -1.918133 3.374536  
 O -2.733425 -1.279657 1.815309  
 C -4.257037 -3.231820 -1.672735  
 O -1.396148 -1.661229 -1.374223  
 C -3.306776 2.026460 -2.423677  
 O -0.194279 1.634286 -1.483310  
 C -1.347382 2.009214 2.610790  
 O 1.619997 1.190243 1.517767  
 C 0.501657 -2.931255 1.376615  
 O 3.325478 -1.593831 0.348782  
 C 1.632149 -1.153516 -3.524110  
 O 4.479554 0.086288 -2.648245  
 C 2.574920 3.715874 -1.548068  
 O 5.585653 3.303002 -0.831391  
 C 4.669503 1.939059 2.942410  
 O 7.422641 0.850458 2.222065  
 O 8.042141 -3.127470 -0.485516  
 H -8.559366 0.342843 0.185407  
 H -6.420135 2.274514 -0.497515  
 H -7.021513 -0.304856 1.949501  
 H -4.423929 -0.121005 3.191655  
 H -5.425248 -2.120035 0.346411  
 H -2.810876 -3.225621 -0.096611  
 H -4.205782 -0.162679 -1.424872  
 H -1.861194 0.535791 -2.942183  
 H -2.654224 1.275679 0.505869  
 H -0.212515 2.768259 0.961294  
 H -0.885183 -0.759879 1.278691  
 H 1.751812 -1.424351 2.243859  
 H 0.550302 -1.241974 -1.168168  
 H 3.141278 -1.975613 -2.247687  
 H 1.752220 1.261192 -1.496586  
 H 4.030294 2.629638 -2.675748  
 H 3.456801 1.463609 0.648056  
 H 5.957981 2.787475 1.464047  
 H 5.041416 -0.524664 0.629999  
 H 7.746245 -1.348179 1.521954  
 C 6.170700 -2.778201 1.671994  
 H 6.256268 -0.661327 -1.471346  
 H 7.208965 -1.767350 -2.408439  
 H -6.950103 3.288667 1.713969  
 H -8.414017 3.190194 0.647746  
 H -8.201730 2.004128 2.006516  
 H -4.733678 -2.494634 3.842156  
 H -6.218470 -1.513590 4.190194  
 H -6.180428 -2.619210 2.750096  
 H 2.331609 -1.040945 -4.388873  
 H 1.076225 -2.116344 -3.637321  
 H 0.891787 -0.315101 -3.551245  
 H -2.674627 2.861573 -2.814007  
 H -4.038973 1.731012 -3.215231  
 H -3.881245 2.395747 -1.536474



H 1.313951 -3.699053 1.371005  
H -0.117403 -3.072457 2.296468  
H -0.153664 -3.095289 0.483510  
H 3.194038 4.646467 -1.525976  
H 1.844917 3.788960 -2.391069  
H 1.997163 3.646142 -0.593094  
H -0.558181 2.266566 3.359464  
H -2.100636 2.834578 2.588086  
H -1.862733 1.071742 2.940885  
H 5.446788 1.853015 3.741360  
H 4.126390 2.906613 3.073939  
H 3.930386 1.108666 3.065063  
H -3.523237 -3.608776 -2.427559  
H -4.830845 -4.102082 -1.269133  
H -4.974914 -2.544042 -2.186857  
H 6.823632 -3.682192 1.589747  
H 6.016560 -2.544289 2.753259  
H 5.175112 -3.009937 1.217229  
H -8.538029 -1.847786 -1.021457  
H -7.727757 -1.843367 -2.569522  
H -9.104765 -0.801773 -2.301197

4.  $\beta$ -strand acetyl(ala)<sub>18</sub>NH<sub>2</sub> [4]

C -29.093450 -0.473930 0.203276  
O -29.282421 -1.483994 0.888797  
N -27.871738 -0.075276 -0.221177  
H -27.736574 0.754966 -0.793940  
C -26.632130 -0.766803 0.135358  
C -25.478366 0.181336 -0.288044  
O -25.694628 1.183273 -0.977838  
N -24.251696 -0.178841 0.150540  
H -24.095515 -1.006859 0.722114  
C -23.027025 0.546425 -0.193102  
C -21.855454 -0.371093 0.250473  
O -22.060120 -1.380740 0.933129  
N -20.631318 0.022223 -0.163216  
H -20.484977 0.856729 -0.728371  
C -19.394351 -0.673328 0.198688  
C -18.239759 0.273815 -0.227833  
O -18.461934 1.282166 -0.906982  
N -17.011602 -0.093231 0.196651  
H -16.851356 -0.929262 0.756002  
C -15.786063 0.629964 -0.150182  
C -14.616891 -0.297976 0.279539  
O -14.826598 -1.316794 0.947162  
N -13.392053 0.096180 -0.129121  
H -13.241686 0.940197 -0.679247  
C -12.156960 -0.609310 0.220740  
C -11.000362 0.341504 -0.192903  
O -11.222745 1.363968 -0.850751  
N -9.771962 -0.038191 0.218378  
H -9.611520 -0.887501 0.757520  
C -8.544852 0.686792 -0.119622  
C -7.378221 -0.256036 0.284446  
O -7.591107 -1.290474 0.926669

N -6.152817 0.143028 -0.117015  
H -5.999464 1.001497 -0.643558  
C -4.919812 -0.576050 0.212298  
C -3.760541 0.382229 -0.176205  
O -3.981057 1.424855 -0.802346  
N -2.532570 -0.013982 0.220124  
H -2.373286 -0.881093 0.730568  
C -1.303652 0.716315 -0.099624  
C -0.139654 -0.244216 0.268991  
O -0.355184 -1.299459 0.875524  
N 1.086365 0.163625 -0.121447  
H 1.242431 1.040431 -0.616017  
C 2.317205 -0.571043 0.180580  
C 3.479313 0.397402 -0.172693  
O 3.261583 1.463892 -0.758316  
N 4.706440 -0.017454 0.206790  
H 4.863901 -0.904664 0.682014  
C 5.937176 0.720698 -0.087001  
C 7.098658 -0.257551 0.240577  
O 6.880875 -1.335488 0.804899  
N 8.325367 0.161464 -0.135748  
H 8.483717 1.057308 -0.594085  
C 9.554150 -0.588503 0.135485  
C 10.718979 0.390160 -0.178204  
O 10.504533 1.479969 -0.720425  
N 11.945018 -0.042929 0.184377  
H 12.100060 -0.948759 0.623803  
C 13.177430 0.703536 -0.079853  
C 14.336780 -0.289452 0.207989  
O 14.117384 -1.387946 0.730346  
N 15.564302 0.140986 -0.153084  
H 15.724130 1.053096 -0.577387  
C 16.791145 -0.622015 0.088716  
C 17.958629 0.364625 -0.186923  
O 17.748350 1.473683 -0.690044  
N 19.183310 -0.084151 0.162023  
H 19.334934 -1.004415 0.571288  
C 20.417036 0.669709 -0.073045  
C 21.575052 -0.333355 0.181559  
O 21.355815 -1.447814 0.668480  
N 22.803464 0.107234 -0.165942  
H 22.963269 1.031064 -0.563533  
C 24.028039 -0.666322 0.051518  
C 25.198838 0.324630 -0.189336  
O 24.996008 1.447638 -0.662472  
N 26.421654 -0.137162 0.153242  
H 26.566705 -1.066408 0.542898  
C 27.655456 0.624482 -0.053250  
C 28.814467 -0.382127 0.173271  
O 28.603103 -1.508089 0.634654  
N 30.043492 0.068205 -0.168149  
H 30.200016 1.001323 -0.543206  
C 31.263444 -0.713164 0.037054  
C 32.441574 0.273366 -0.168566  
O 32.262127 1.404823 -0.611872  
N 33.668684 -0.199113 0.190028  
H -26.604212 -0.906611 1.226538  
H -22.988107 0.681679 -1.284432

H -19.367908 -0.807641 1.290481  
 H -15.753340 0.772253 -1.240774  
 H -12.129501 -0.759930 1.310346  
 H -8.516875 0.851567 -1.207162  
 H -4.891944 -0.756333 1.297363  
 H -1.279370 0.915718 -1.181432  
 H 2.344742 -0.791368 1.258230  
 H 5.959550 0.962574 -1.160153  
 H 9.581161 -0.853050 1.203158  
 H 13.200099 0.988405 -1.142403  
 H 16.817254 -0.928087 1.145266  
 H 20.441874 0.992419 -1.124686  
 H 24.051461 -1.008111 1.097151  
 H 27.682931 0.980842 -1.093920  
 H 31.278795 -1.082527 1.073749  
 N -31.490995 -0.300802 0.053060  
 H -30.206248 0.629828 -1.311353  
 H 33.806712 -1.145614 0.514392  
 H 34.475823 0.385482 0.017855  
 C -30.266659 0.444872 -0.228205  
 C -32.721169 0.111340 -0.384518  
 O -32.895040 1.135655 -1.049796  
 H -31.373533 -1.130109 0.628356  
 C 31.410568 -1.901223 -0.882596  
 H 30.507593 -2.558762 -0.802732  
 H 32.305222 -2.502212 -0.589658  
 H 31.525140 -1.585676 -1.947751  
 C 27.813779 1.821350 0.851875  
 H 26.922241 2.492012 0.754734  
 H 28.721180 2.403832 0.559363  
 H 27.913652 1.518193 1.922042  
 C 24.171350 -1.877469 -0.836790  
 H 23.271230 -2.535237 -0.731338  
 H 25.071054 -2.467325 -0.535495  
 H 24.275987 -1.590223 -1.910897  
 C 20.578856 1.894291 0.793197  
 H 19.686235 2.560971 0.680165  
 H 21.484129 2.468052 0.477728  
 H 20.684953 1.624654 1.871709  
 C 16.935981 -1.861906 -0.758545  
 H 16.036644 -2.516899 -0.631416  
 H 17.836238 -2.440505 -0.437595  
 H 17.040598 -1.610556 -1.841612  
 C 13.339215 1.958307 0.741935  
 H 12.445029 2.618957 0.607920  
 H 14.242482 2.522263 0.403806  
 H 13.448854 1.727235 1.829012  
 C 9.701937 -1.860002 -0.662952  
 H 8.803682 -2.511252 -0.511296  
 H 10.602898 -2.424200 -0.319123  
 H 9.807089 -1.650605 -1.754853  
 C 6.095735 2.007839 0.683724  
 H 5.199816 2.660251 0.523513  
 H 6.997476 2.560171 0.323071  
 H 6.206109 1.820849 1.779171  
 C 2.468863 -1.873822 -0.564942  
 H 1.572206 -2.520686 -0.387256  
 H 3.371037 -2.421110 -0.197744

H 2.574259 -1.709090 -1.664444  
 C -1.151290 2.033400 0.620071  
 H -2.048886 2.675992 0.431979  
 H -0.250353 2.574016 0.240173  
 H -1.043200 1.890150 1.722318  
 C -4.763539 -1.905009 -0.484503  
 H -5.658095 -2.547866 -0.283216  
 H -3.859632 -2.435261 -0.097133  
 H -4.658319 -1.780675 -1.589320  
 C -8.400862 2.026959 0.558007  
 H -9.299949 2.659653 0.345105  
 H -7.500065 2.558454 0.165142  
 H -8.297551 1.919657 1.664790  
 C -11.995182 -1.956293 -0.439322  
 H -12.887341 -2.596847 -0.220774  
 H -11.089328 -2.472080 -0.037274  
 H -11.889990 -1.861860 -1.547097  
 C -15.651307 1.984777 0.499824  
 H -16.551521 2.609208 0.268104  
 H -14.750079 2.511262 0.101287  
 H -15.554436 1.901275 1.609235  
 C -19.226741 -2.029765 -0.440522  
 H -20.116436 -2.670390 -0.212342  
 H -18.318863 -2.535447 -0.030363  
 H -19.121660 -1.951943 -1.549592  
 C -22.901769 1.906761 0.447772  
 H -23.802286 2.526162 0.204012  
 H -21.999041 2.433102 0.052582  
 H -22.813743 1.831887 1.558516  
 C -26.460080 -2.120840 -0.508947  
 H -27.346348 -2.765727 -0.279604  
 H -25.548332 -2.623435 -0.103883  
 H -26.359707 -2.038745 -1.618117  
 C -30.163485 1.779332 0.471311  
 H -29.249070 2.320827 0.127272  
 H -30.111263 1.659556 1.580263  
 H -31.057329 2.406572 0.223162  
 C -33.882719 -0.778055 -0.013333  
 H -33.989501 -0.843553 1.096235  
 H -33.741020 -1.806057 -0.425677  
 H -34.818634 -0.343043 -0.441285

5.  ${}_3I_0$ -helix acetyl(ala)<sub>18</sub>NH<sub>2</sub> [4]

C -18.56587600 -1.13441900 -1.55640900  
 H -18.69560100 -2.02055400 -0.93568000  
 C -17.42202700 -0.29559100 -1.00899400  
 O -16.30320300 -0.79997900 -0.94400300  
 H -18.33744200 -1.43676100 -2.57784400  
 N -17.67704700 0.95516200 -0.61941900  
 H -18.61954600 1.31141800 -0.69899400  
 C -16.64178100 1.81847500 -0.08687500  
 H -16.33275600 2.47518600 -0.90015400  
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H -14.31419800 -0.18797000 2.88979800  
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H -14.35023000 -2.67790600 2.69717900  
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H -15.51407200 -2.54219400 1.35839900  
N -13.73037600 -1.39201600 -0.16774400  
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C -12.70277100 -1.57866400 -1.17215600  
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O -10.40953700 -1.08401600 -0.70081400  
C -13.24568100 -1.30545600 -2.57053500  
H -12.45280400 -1.45312700 -3.30389000  
H -14.06762800 -1.98985300 -2.78085100  
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H -12.73299300 0.97338900 -1.20016900  
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O -6.47234900 0.08726200 1.28865100  
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H -8.46112500 -1.58853000 3.36792200  
H -10.08978900 -0.87024400 3.41666900  
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H -0.57693000 -2.69669100 0.70269100  
C 0.25592700 -1.07979200 -0.45255000  
O 1.37709600 -1.25909600 0.01887000  
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H -0.64716300 -3.23830800 -1.73418900  
H -2.26310300 -3.32378100 -0.99266700  
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N -0.00958200 -0.12550800 -1.34821000  
H -0.95171100 -0.02934800 -1.69693900  
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H 1.33119700 0.39815400 -2.80548800  
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O 3.31592400 0.45882200 -1.25374700  
C 0.47685600 2.19559300 -1.97264600  
H 1.26802300 2.85016000 -2.33795000  
H -0.35385900 2.20113100 -2.67787400  
H 0.13153200 2.55022900 -1.00119300  
N 1.96004400 1.26543200 0.35457500  
H 1.02185700 1.54696300 0.59993100  
C 3.00564600 1.35420500 1.35426900  
H 3.32089200 2.39785700 1.38609900  
C 4.18611000 0.46337900 0.99475500  
O 5.29552400 0.95004300 0.78878700  
C 2.49463600 0.92122200 2.72427100  
H 3.29920200 0.99857100 3.45397100  
H 1.66801300 1.56616500 3.02491500  
H 2.14915100 -0.11106100 2.67294100  
N 3.94363100 -0.84764200 0.92044200  
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C 4.98317000 -1.80010200 0.58641100  
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C 6.14937800 -1.11636200 -0.11376300  
O 7.26877500 -1.11840200 0.39360500  
C 4.45428400 -2.88658900 -0.34279200  
H 5.25568700 -3.58717100 -0.57584000  
H 3.63864400 -3.41862400 0.14688500  
H 4.08999600 -2.43160200 -1.26397500  
N 5.88277500 -0.52931400 -1.28257100  
H 4.94168100 -0.56302600 -1.64483300  
C 6.90716500 0.15484700 -2.04646700

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 C 8.09052200 0.52827600 -1.16459000  
 O 9.20618400 0.06411400 -1.38960700  
 C 6.36451300 1.43728700 -2.66642900  
 H 7.15510400 1.92953300 -3.23358800  
 H 5.53542400 1.19663500 -3.33228400  
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 C 8.37123100 1.86303200 2.18578500  
 H 9.17443700 2.19073200 2.84550700  
 H 7.54251100 2.56903100 2.24445200  
 H 8.02979100 0.87497200 2.49202400  
 N 9.83161400 -0.41237000 1.10199600  
 H 8.89762300 -0.67033100 1.38588000  
 C 10.87412500 -1.41792000 1.11866500  
 H 11.20693100 -1.50759400 2.15315800  
 C 12.04105000 -1.01181000 0.22821900  
 O 13.15961700 -0.83577800 0.70695700  
 C 10.35191000 -2.75977600 0.61895000  
 H 11.15606000 -3.49500400 0.64206300  
 H 9.53581500 -3.09408200 1.25990400  
 H 9.98906800 -2.65087400 -0.40329000  
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 H 10.83568000 -1.02376400 -1.40282800  
 C 12.80126100 -0.48044200 -2.02228600  
 H 13.12452100 -1.39458600 -2.51978900  
 C 13.98069600 0.17728100 -1.32077800  
 O 15.09818700 -0.33022800 -1.37061900  
 C 12.25674500 0.50862000 -3.04632200  
 H 13.04717900 0.77818700 -3.74717800  
 H 11.43046500 0.05109700 -3.59087700  
 H 11.90325500 1.40388100 -2.53469200  
 N 13.72874700 1.31325100 -0.66544900  
 H 12.78693700 1.67962200 -0.66306500  
 C 14.76664200 2.03492700 0.04136300  
 H 15.07586400 2.85422000 -0.60747400  
 C 15.95309700 1.13159600 0.34589600  
 O 17.06183700 1.37944700 -0.12340100  
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 N 15.71754200 0.08129600 1.13472700  
 H 14.78321800 -0.06765400 1.48822800  
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 H 17.09364500 -0.58115800 2.50039200  
 C 17.93069100 -0.77464500 0.52410600  
 O 19.04793500 -0.44046600 0.91474200  
 C 16.24619800 -2.28839300 1.48851400  
 H 17.05270000 -2.96749500 1.76532400  
 H 15.42871200 -2.38414200 2.20384800  
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 N 17.67075500 -1.08389000 -0.74788900

H 16.73132700 -1.35071900 -1.00557800  
 H 18.37876000 -1.05849500 -1.45364000  
 H -19.46659700 -0.55689700 -1.54801500

6.  $\alpha$ -helix acetyl(ala)<sub>18</sub>NH<sub>2</sub> [4]

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 C 11.87201900 -1.02213700 -0.87032300  
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 C 11.24661600 -1.86670300 1.35635700  
 C 10.19196000 -0.78588800 1.72908600  
 N 10.62477100 0.49857400 1.75973500  
 C 9.67929400 1.61121500 1.98639900  
 C 8.65322600 1.74849500 0.82901400  
 N 9.15717500 1.64286800 -0.42411200  
 C 8.26755800 1.63258700 -1.60211700  
 C 7.23061900 0.47529600 -1.53677900  
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 C 5.71765500 -1.65073400 0.04856300  
 N 6.12981100 -1.10265800 1.21221100  
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 N 3.10737900 0.77081600 -1.36305300  
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 C 1.17221600 -0.82052700 -1.55858800  
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 C -0.39721600 -1.47304600 0.97654400  
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 C -1.97932300 1.13310500 1.10666800  
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 C -3.42160200 0.81629500 -1.57091900  
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 O 2.89919000 0.07127500 2.07299700  
 O 1.39829300 1.95084100 -0.41898100  
 O -0.00664300 -0.82103900 -1.93519800  
 O -1.57809400 -1.84386800 0.96963400  
 O -3.17738000 1.19084700 1.41192900  
 O -4.61036100 1.10385900 -1.76067500  
 O -6.05508800 -2.03241400 -1.20743500  
 O -7.69162400 -0.91670700 1.69568100  
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 O -10.62720200 -0.34747300 -2.48511800  
 O -11.93915700 -3.02988900 -0.07359600  
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 O -13.84250100 3.48637100 -0.96842600  
 N 14.02299800 0.27230900 -1.10772900  
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 H 10.66263600 -2.66896900 0.88906900  
 H 11.52341700 0.72905700 1.34718500  
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 H 7.65972000 2.54561200 -1.60366900  
 H 8.71741000 -0.86647100 -1.06259100  
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 H 12.74481200 -2.24624200 -3.06321400  
 H 14.10789000 -2.38641600 -1.87523200  
 H 14.28902900 -1.34037900 -3.34625300  
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 H 12.47721500 -1.60295800 3.14044200  
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 H 11.00139400 2.90390800 3.11881700  
 H 11.06184600 3.16230700 1.32304200  
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 H 8.31923400 1.47882500 -3.74555300  
 H 9.68202200 2.44104800 -3.03488400  
 H 9.69257200 0.62899200 -2.91284300  
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 H 6.84925200 -3.99044900 -0.53362500  
 H 8.28148600 -3.42723500 -1.49478400  
 H 8.16166100 -3.02534100 0.27092400  
 C 5.85114200 -0.21584500 3.49939500  
 H 5.08056900 0.04758200 4.26513900  
 H 6.54564400 -0.97419400 3.93814100  
 H 6.44340000 0.70276200 3.25580800  
 C 4.33856800 3.41042500 -0.18541500  
 H 3.59138900 4.11460800 -0.62732200  
 H 4.97861300 3.97603900 0.53565800  
 H 4.99364500 3.02059000 -1.00585200  
 C 3.01748600 -0.83600900 -3.23533600  
 H 2.30990900 -1.39585700 -3.89505100  
 H 3.69440400 -0.22151200 -3.87844600  
 H 3.64307600 -1.57410300 -2.67118900  
 C 1.42964400 -3.12381400 1.37460900  
 H 0.68641600 -3.68088000 1.99631100  
 H 2.13360500 -3.86018000 0.91462900  
 H 2.01889800 -2.44410300 2.04197500  
 C -0.23390500 1.81291500 2.75218900  
 H -0.99821900 2.52180300 3.15518100  
 H 0.42996100 1.48849200 3.59095000  
 H 0.39340100 2.35162600 1.99652600  
 C -1.64100900 2.34405700 -2.41339000  
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 H -0.98811500 1.51596500 -2.79097100  
 C -3.01214300 -2.85778200 -2.12978600  
 H -3.71833100 -3.70459500 -2.31177900  
 H -2.30927500 -2.78536200 -2.99588400  
 H -2.41306800 -3.07987200 -1.20965600  
 C -4.73905000 -1.74512900 2.84993600

H -5.50760700 -1.78267900 3.66049900  
H -4.05374000 -2.62037700 2.96595200  
H -4.13624200 -0.80878500 2.96918400  
C -6.25802400 3.00578600 0.78157000  
H -7.00568000 3.82560000 0.64810500  
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H -5.62307300 2.94405900 -0.13912800  
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H -7.04299800 -0.49400700 -3.52134200  
C -8.99858900 -3.86679500 -0.74731800  
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H -8.30809500 -4.17119600 -1.57166100  
H -8.38262200 -3.66154000 0.16345700  
C -10.74864400 -1.04716800 3.33944900  
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H -10.28339900 -2.01334800 3.65323000  
H -9.93865000 -0.27858500 3.27603400  
C -11.85571000 3.43667500 1.14318400  
H -12.42465100 4.36417700 0.88598400  
H -11.67356600 3.42160900 2.24510100  
H -10.86485700 3.46502700 0.62422700

#### D. Proteins from protein data bank (PDB)

##### 1. *$\alpha$ -conotoxin pnib (1akg) [5]*

N 0.50400000 -0.49400000 0.92400000  
C 1.27200000 0.58900000 0.27700000  
C 1.70000000 1.61400000 1.30100000  
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N 2.26500000 2.70800000 0.81800000  
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C 6.13600000 1.02600000 4.86000000

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C 6.90100000 5.62200000 8.53300000  
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H 6.50700000 9.38900000 8.56800000  
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2. *crambin (1cnr)* [5]

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| H 1.76500000  | 1.26100000  | -4.52400000  | H -7.98700000  | 0.45900000  | -4.39500000 |
| H 0.99300000  | -0.10600000 | -4.75000000  | H -6.03800000  | -1.46200000 | -4.92100000 |
| H 4.66400000  | -2.57700000 | -6.74900000  | H -7.41500000  | -1.82000000 | -4.22900000 |
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| H 3.95000000  | -4.63100000 | -6.14700000  | H -5.11000000  | 0.05300000  | -0.59200000 |
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| H 1.72900000  | -4.93600000 | -5.50700000  | H -3.17000000  | 1.68100000  | -1.68500000 |
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| H -1.18900000 | 3.24700000  | -6.21100000  | H -5.17600000  | 2.33300000  | 7.63000000  |
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| H -12.59400000 | 5.41800000  | -0.04200000 | H 0.05100000   | -3.29900000 | 3.50800000  |
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| H -11.87200000 | 6.65200000  | -0.80100000 | H 0.65100000   | -4.57100000 | 2.74100000  |
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| H -9.89800000  | 7.78900000  | 1.94800000  | H -1.57800000  | -8.22300000 | 1.61100000  |
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 H 4.50700000 3.73400000 -10.60900000  
 H 3.90300000 4.46900000 -9.33200000

### 3. epidermal growth factor subdomain (1fgd) [5]

N -1.84200000 -7.03800000 0.76300000  
 C -1.12100000 -6.02400000 1.54600000  
 C -0.92000000 -4.76000000 0.69300000  
 S 0.51900000 -4.98600000 -0.38400000  
 C -1.92700000 -5.67900000 2.83000000  
 O -3.09000000 -5.31400000 2.73000000  
 N -1.29200000 -5.82600000 4.00400000  
 C -1.94500000 -5.55200000 5.32300000  
 C 0.12000000 -6.27600000 4.13100000  
 C -1.03000000 -6.27500000 6.32400000  
 C 0.35000000 -6.41800000 5.64500000  
 C -2.03600000 -4.03100000 5.64500000  
 O -1.72900000 -3.18800000 4.80800000  
 N -2.47200000 -3.69800000 6.86800000  
 C -2.61800000 -2.25600000 7.32000000  
 C -2.93300000 -2.21400000 8.82500000  
 C -4.45700000 -2.26200000 9.03500000  
 C -5.07600000 -0.87400000 8.77800000  
 O -5.44100000 -0.60700000 7.64200000  
 O -5.17500000 -0.10500000 9.72100000  
 C -1.33200000 -1.45200000 7.03900000  
 O -0.22400000 -1.92300000 7.28500000  
 N -1.48500000 -0.25400000 6.48500000  
 C -0.30000000 0.60600000 6.12100000  
 C 0.02500000 0.40000000 4.62900000  
 O 0.25700000 1.35700000 3.90500000  
 N 0.01100000 -0.85100000 4.17800000  
 C 0.28000000 -1.19800000 2.74600000  
 C 0.80300000 -2.65800000 2.67000000  
 C 1.98300000 -2.87900000 3.60000000  
 C 3.28400000 -2.66700000 3.14000000  
 C 1.77000000 -3.30600000 4.91900000  
 C 4.37200000 -2.87800000 3.99700000  
 C 2.85700000 -3.51600000 5.77300000  
 C 4.15900000 -3.30100000 5.31200000  
 O 5.23400000 -3.50000000 6.15300000  
 C -1.06100000 -1.05200000 1.97800000

O -1.83700000 -1.99900000 1.86500000  
N -1.35600000 0.15100000 1.49600000  
C -2.67000000 0.40900000 0.77300000  
C -3.29400000 1.78800000 1.21700000  
C -2.96000000 2.10000000 2.68600000  
C -2.84400000 2.98900000 0.33300000  
C -1.32400000 3.02900000 0.15500000  
C -2.50400000 0.32200000 -0.77100000  
O -1.43200000 0.00700000 -1.28400000  
N -3.57700000 0.60600000 -1.50000000  
C -3.55700000 0.56700000 -2.99700000  
C -4.84200000 -0.10000000 -3.54400000  
C -4.86100000 -1.64300000 -3.35800000  
C -3.81600000 -2.30100000 -4.25700000  
C -4.59500000 -2.04500000 -1.90000000  
C -3.48600000 2.01600000 -3.51300000  
O -4.39900000 2.80600000 -3.28200000  
N -2.41500000 2.36400000 -4.20000000  
C -2.25400000 3.76600000 -4.74200000  
C -1.07800000 4.45400000 -4.01500000  
C -1.50600000 5.84000000 -3.51600000  
O -1.44900000 6.77800000 -4.29800000  
O -1.88200000 5.94000000 -2.35800000  
C -2.01200000 3.73900000 -6.27100000  
O -2.13000000 2.69300000 -6.89900000  
N -1.69200000 4.89800000 -6.86000000  
C -1.43400000 5.03000000 -8.34500000  
C -0.14300000 4.26100000 -8.72500000  
C 1.06200000 4.81900000 -7.95100000  
O 1.64800000 5.78500000 -8.41500000  
O 1.38300000 4.26400000 -6.91100000  
C -2.66200000 4.53000000 -9.15100000  
O -3.54500000 5.31600000 -9.46800000  
N -2.73300000 3.23600000 -9.44600000  
C -3.89800000 2.64800000 -10.19000000  
C -4.36300000 1.36700000 -9.48000000  
O -4.60000000 0.36100000 -10.12900000  
N -4.46900000 1.40500000 -8.14500000  
C -4.89500000 0.21600000 -7.32600000  
C -6.24000000 -0.35000000 -7.84800000  
C -6.90400000 -1.17500000 -6.76400000  
C -7.76000000 -0.56300000 -5.84000000  
C -6.66200000 -2.55200000 -6.68700000  
C -8.37100000 -1.32700000 -4.84000000  
C -7.27400000 -3.31600000 -5.68700000  
C -8.12800000 -2.70300000 -4.76400000  
C -3.76800000 -0.85000000 -7.33600000  
O -3.92300000 -1.95500000 -7.84600000  
N -2.63000000 -0.50200000 -6.75300000  
C -1.45300000 -1.45000000 -6.67600000  
C -0.37800000 -1.10700000 -7.74400000  
C -0.82200000 -1.67000000 -9.10100000  
C -0.16300000 0.41500000 -7.87900000  
C 0.62300000 0.94700000 -6.67800000  
C -0.84600000 -1.41900000 -5.25500000  
O -0.95500000 -0.42500000 -4.54100000  
N -0.22500000 -2.51800000 -4.84200000  
C 0.38600000 -2.61500000 -3.46200000  
C 0.94700000 -4.02900000 -3.22400000  
S -0.24400000 -4.99200000 -2.25400000  
C 1.50100000 -1.56300000 -3.30100000  
O 2.55900000 -1.65900000 -3.91300000  
N 1.23700000 -0.55200000 -2.49200000  
C 2.22700000 0.56600000 -2.25500000  
C 1.46800000 1.88500000 -1.98600000  
O 0.39200000 2.01800000 -2.90600000  
C 2.41000000 3.08000000 -2.15500000  
C 3.13000000 0.23600000 -1.04800000  
O 2.71100000 -0.43800000 -0.10800000  
N 4.36700000 0.72100000 -1.07500000  
C 5.33800000 0.47000000 0.04500000  
C 6.76700000 0.78700000 -0.43900000  
C 7.14600000 -0.11400000 -1.62600000  
O 7.59900000 -1.22300000 -1.38500000  
O 6.98000000 0.32300000 -2.75500000  
C 4.98900000 1.33600000 1.29000000  
O 3.95800000 2.00400000 1.33300000  
N 5.85200000 1.30900000 2.30300000  
C 5.62200000 2.09600000 3.57900000  
C 4.32700000 1.59600000 4.28100000  
C 4.39900000 0.09100000 4.56700000  
C 4.10000000 2.35600000 5.60100000  
C 2.77900000 1.90900000 6.23300000  
C 6.84400000 1.98300000 4.53000000  
O 7.32400000 2.99500000 5.01600000  
N 7.32600000 0.76200000 4.79800000  
C 8.49800000 0.53100000 5.71800000  
C 9.75500000 1.23100000 5.14100000  
C 10.12400000 0.61600000 3.78000000  
O 9.60700000 1.08700000 2.77400000  
O 10.91200000 -0.31600000 3.76400000  
C 8.13400000 1.03500000 7.14200000  
O 8.79100000 1.90700000 7.70200000  
N 7.05600000 0.46600000 7.69700000  
C 6.52000000 0.82500000 9.07400000  
C 7.64600000 0.80900000 10.14800000  
C 7.72800000 -0.57700000 10.82800000  
C 8.08800000 -1.66900000 9.79800000  
O 9.26300000 -1.81100000 9.49300000  
O 7.18100000 -2.34600000 9.33400000  
C 5.81900000 2.15200000 9.04000000  
O 6.16500000 3.05000000 9.80600000  
O 4.82000000 2.35700000 8.18000000  
H -1.29100000 -7.27500000 -0.06100000  
H -1.97800000 -7.87900000 1.32500000  
H -2.77300000 -6.65200000 0.48600000  
H -0.15600000 -6.42000000 1.82200000  
H -1.79800000 -4.58300000 0.09000000  
H -0.75200000 -3.91400000 1.33700000  
H -2.92700000 -5.99400000 5.35200000  
H 0.79400000 -5.53900000 3.71700000  
H 0.25200000 -7.22800000 3.64100000  
H -0.93900000 -5.69500000 7.23300000  
H -1.42700000 -7.25300000 6.54800000  
H 1.01500000 -5.64000000 5.99500000  
H 0.76900000 -7.38800000 5.86000000

H -2.71400000 -4.41200000 7.49400000  
 H -3.43500000 -1.80400000 6.77600000  
 H -2.47500000 -3.06200000 9.31300000  
 H -2.54300000 -1.30100000 9.25100000  
 H -4.88800000 -2.98100000 8.35300000  
 H -4.66800000 -2.56400000 10.05000000  
 H -2.39000000 0.06900000 6.28000000  
 H -0.53800000 1.64500000 6.30300000  
 H 0.55500000 0.32100000 6.71500000  
 H -0.20100000 -1.57800000 4.79300000  
 H 1.01500000 -0.52000000 2.33400000  
 H 0.00800000 -3.33100000 2.95200000  
 H 1.10200000 -2.87100000 1.66200000  
 H 3.44800000 -2.33700000 2.12700000  
 H 0.76500000 -3.47100000 5.27700000  
 H 5.37600000 -2.70800000 3.64600000  
 H 2.69100000 -3.84400000 6.78800000  
 H 5.41000000 -4.44300000 6.19600000  
 H -0.72800000 0.89100000 1.63600000  
 H -3.36000000 -0.37200000 1.06400000  
 H -4.37100000 1.69700000 1.14000000  
 H -3.11600000 1.21600000 3.28800000  
 H -1.92900000 2.41100000 2.76500000  
 H -3.60200000 2.89400000 3.04000000  
 H -3.30900000 2.90900000 -0.63800000  
 H -3.16800000 3.90900000 0.79900000  
 H -0.84300000 2.96100000 1.11900000  
 H -1.02200000 2.19900000 -0.46100000  
 H -1.04200000 3.95500000 -0.32600000  
 H -4.40300000 0.85600000 -1.05200000  
 H -2.69400000 0.02100000 -3.33200000  
 H -5.69800000 0.33000000 -3.05700000  
 H -4.90500000 0.12100000 -4.59000000  
 H -5.83700000 -2.00800000 -3.64600000  
 H -3.13400000 -1.55300000 -4.61600000  
 H -3.27100000 -3.04700000 -3.69800000  
 H -4.30800000 -2.77000000 -5.09600000  
 H -5.24700000 -1.48700000 -1.24500000  
 H -4.78100000 -3.10100000 -1.78000000  
 H -3.56600000 -1.83600000 -1.65000000  
 H -1.70700000 1.69900000 -4.36200000  
 H -3.16000000 4.32400000 -4.54900000  
 H -0.77900000 3.85300000 -3.17200000  
 H -0.24300000 4.55900000 -4.69200000  
 H -1.62200000 5.70400000 -6.30800000  
 H -1.28900000 6.07600000 -8.57100000  
 H -0.26300000 3.21500000 -8.48700000  
 H 0.03300000 4.36900000 -9.78100000  
 H -2.01600000 2.64000000 -9.14800000  
 H -4.71000000 3.36100000 -10.21800000  
 H -3.59700000 2.40700000 -11.19400000  
 H -4.24200000 2.23500000 -7.66900000  
 H -5.03300000 0.54800000 -6.30700000  
 H -6.88900000 0.46600000 -8.12600000  
 H -6.05800000 -0.97300000 -8.71200000  
 H -7.94700000 0.49900000 -5.89900000  
 H -5.99800000 -3.02400000 -7.40000000  
 H -9.03100000 -0.85500000 -4.12700000

H -7.08700000 -4.37800000 -5.62800000  
 H -8.60100000 -3.29300000 -3.99200000  
 H -2.54900000 0.39100000 -6.35100000  
 H -1.81500000 -2.45400000 -6.86200000  
 H 0.55600000 -1.57700000 -7.46200000  
 H -1.88700000 -1.87000000 -9.08100000  
 H -0.60700000 -0.95300000 -9.87900000  
 H -0.28900000 -2.58700000 -9.30100000  
 H 0.39100000 0.61700000 -8.78400000  
 H -1.11800000 0.91100000 -7.93100000  
 H 0.95500000 0.11700000 -6.06600000  
 H 1.48100000 1.50500000 -7.02700000  
 H -0.01400000 1.59600000 -6.09400000  
 H -0.17100000 -3.28500000 -5.44500000  
 H -0.38700000 -2.41700000 -2.72900000  
 H 1.11600000 -4.51700000 -4.17300000  
 H 1.88000000 -3.96400000 -2.68400000  
 H 0.36300000 -0.51300000 -2.04300000  
 H 2.84300000 0.68600000 -3.13600000  
 H 1.08100000 1.87800000 -0.97700000  
 H -0.41500000 1.74200000 -2.46400000  
 H 2.93600000 2.99400000 -3.09400000  
 H 1.83500000 3.99500000 -2.14800000  
 H 3.12100000 3.09700000 -1.34200000  
 H 4.66000000 1.25600000 -1.84000000  
 H 5.28600000 -0.57100000 0.31900000  
 H 6.82400000 1.82200000 -0.74000000  
 H 7.45500000 0.61200000 0.36900000  
 H 6.65500000 0.76600000 2.21600000  
 H 5.49400000 3.13200000 3.32100000  
 H 3.49300000 1.77900000 3.62200000  
 H 4.88700000 -0.40900000 3.74600000  
 H 4.95600000 -0.07800000 5.47700000  
 H 3.39800000 -0.30000000 4.68200000  
 H 4.91300000 2.14700000 6.28400000  
 H 4.06200000 3.41700000 5.40500000  
 H 2.57600000 0.88200000 5.94700000  
 H 2.85300000 1.97500000 7.30800000  
 H 1.97900000 2.54600000 5.88600000  
 H 6.90300000 -0.01200000 4.39500000  
 H 8.68500000 -0.53400000 5.77400000  
 H 9.55100000 2.28200000 5.01600000  
 H 10.58000000 1.10600000 5.82600000  
 H 6.57300000 -0.21500000 7.18100000  
 H 5.78800000 0.07200000 9.34300000  
 H 8.59300000 1.03200000 9.68500000  
 H 7.43300000 1.55800000 10.89700000  
 H 8.48900000 -0.55000000 11.59500000  
 H 6.77700000 -0.81200000 11.28400000

#### 4. $\mu$ -conotoxin giuib (1gib) [5]

N -1.63500000 -4.47300000 -16.76800000  
 C -0.90700000 -5.53100000 -16.01400000  
 C 0.28000000 -6.04900000 -16.85500000  
 C 0.87700000 -7.31800000 -16.20200000

C 1.93200000 -7.92100000 -17.14300000  
 N 2.36000000 -9.23700000 -16.58200000  
 C 2.54000000 -10.25600000 -17.37800000  
 N 1.58000000 -11.12900000 -17.51000000  
 N 3.67200000 -10.36900000 -18.01600000  
 C -0.38900000 -4.94800000 -14.69300000  
 O 0.02300000 -3.80400000 -14.64000000  
 N -0.43000000 -5.76900000 -13.67000000  
 C 0.03400000 -5.37000000 -12.30300000  
 C 1.57900000 -5.19800000 -12.33500000  
 C 2.11300000 -5.10200000 -10.89300000  
 O 2.05200000 -4.00600000 -10.36000000  
 O 2.55300000 -6.13100000 -10.40500000  
 C -0.65100000 -4.06900000 -11.84500000  
 O -0.13400000 -2.98100000 -12.02800000  
 N -1.81100000 -4.24100000 -11.26100000  
 C -2.59500000 -3.07300000 -10.76100000  
 C -3.47000000 -2.50700000 -11.88500000  
 S -2.66700000 -1.54800000 -13.18800000  
 C -3.49900000 -3.45800000 -9.59600000  
 O -3.50100000 -2.79000000 -8.58300000  
 N -4.23400000 -4.52600000 -9.76600000  
 C -5.15700000 -4.98200000 -8.68600000  
 C -6.20700000 -5.89200000 -9.30500000  
 S -7.25000000 -5.19900000 -10.61200000  
 C -4.39700000 -5.73300000 -7.59000000  
 O -4.95200000 -6.01500000 -6.54400000  
 N -3.15100000 -6.03100000 -7.86600000  
 C -2.30900000 -6.75700000 -6.87300000  
 C -0.91500000 -7.03200000 -7.51200000  
 O -0.10400000 -7.52700000 -6.45200000  
 C -0.19900000 -5.74800000 -7.99000000  
 C -2.19800000 -5.84700000 -5.62200000  
 O -1.77500000 -4.71400000 -5.75000000  
 O -2.67300000 -6.28200000 -4.53300000  
 N -4.20300000 -2.01100000 -4.40400000  
 C -4.61500000 -1.64300000 -5.79500000  
 C -6.12300000 -1.33500000 -5.79000000  
 C -6.92000000 -2.65000000 -5.66100000  
 C -8.38100000 -2.41400000 -6.08000000  
 N -9.03100000 -3.74500000 -6.25200000  
 C -9.50400000 -4.38400000 -5.21700000  
 N -8.72200000 -5.20600000 -4.57200000  
 N -10.74200000 -4.18100000 -4.86100000  
 C -3.83600000 -0.43000000 -6.33900000  
 O -3.26100000 0.33900000 -5.59200000  
 N -3.85600000 -0.31400000 -7.64200000  
 C -3.15800000 0.79100000 -8.36800000  
 C -2.06900000 0.13200000 -9.21300000  
 C -1.16900000 1.13700000 -9.95000000  
 C -0.47900000 0.34900000 -11.08400000  
 C 0.71600000 1.10900000 -11.65600000  
 N 1.33900000 0.27500000 -12.72400000  
 C -4.17800000 1.55000000 -9.22800000  
 O -4.40600000 2.72600000 -9.02000000  
 N -4.74900000 0.83000000 -10.16600000  
 C -5.77200000 1.38400000 -11.11200000  
 C -7.06800000 1.59300000 -10.31100000  
 S -7.61100000 0.22200000 -9.26300000  
 C -5.33200000 2.69500000 -11.79600000  
 O -6.15600000 3.48000000 -12.22800000  
 N -4.03900000 2.88500000 -11.87700000  
 C -3.47400000 4.11600000 -12.51400000  
 C -2.03300000 4.32000000 -12.00900000  
 C -2.05600000 4.78100000 -10.52700000  
 C -1.62500000 6.26500000 -10.43100000  
 C -2.12300000 6.88100000 -9.11000000  
 N -1.73500000 6.02300000 -7.95500000  
 C -3.47400000 4.00600000 -14.04000000  
 O -3.80800000 4.95200000 -14.72800000  
 N -3.10000000 2.84800000 -14.52000000  
 C -3.05100000 2.60100000 -15.99200000  
 C -2.41600000 1.22300000 -16.22900000  
 C -1.05600000 1.15500000 -15.50600000  
 O -0.07800000 1.51800000 -16.14000000  
 O -1.07000000 0.74600000 -14.35800000  
 C -4.46000000 2.65200000 -16.59900000  
 O -5.43200000 2.34400000 -15.93400000  
 N -4.51800000 3.04200000 -17.84900000  
 C -5.82800000 3.13800000 -18.56300000  
 C -5.56400000 3.59000000 -20.01800000  
 C -6.90700000 3.85300000 -20.74100000  
 C -6.64600000 4.47700000 -22.13200000  
 N -7.24500000 5.84600000 -22.16100000  
 C -6.49600000 6.89500000 -21.94300000  
 N -5.97900000 7.06900000 -20.75800000  
 N -6.29200000 7.73400000 -22.92000000  
 C -6.52700000 1.77200000 -18.53600000  
 O -7.62500000 1.65500000 -18.03500000  
 N -5.86200000 0.78000000 -19.06900000  
 C -6.42600000 -0.60500000 -19.10900000  
 C -5.40100000 -1.53800000 -19.78000000  
 C -5.00800000 -0.98500000 -21.17200000  
 C -4.35100000 -2.09700000 -22.00600000  
 N -3.09500000 -2.52400000 -21.31900000  
 C -2.23500000 -3.27500000 -21.95100000  
 N -1.16600000 -2.72000000 -22.45100000  
 N -2.47300000 -4.55300000 -22.06200000  
 C -6.78200000 -1.16300000 -17.71600000  
 O -7.52100000 -2.12200000 -17.61800000  
 N -6.24900000 -0.54700000 -16.68900000  
 C -6.51200000 -0.99200000 -15.28300000  
 C -5.22900000 -0.74000000 -14.49000000  
 S -3.84900000 -1.87100000 -14.79200000  
 C -7.71300000 -0.29000000 -14.61700000  
 O -8.05100000 -0.60500000 -13.49200000  
 N -8.32400000 0.63400000 -15.31600000  
 C -9.50100000 1.37300000 -14.75800000  
 C -9.58700000 2.76100000 -15.46100000  
 C -9.84400000 3.88500000 -14.42800000  
 C -11.35600000 3.97700000 -14.12200000  
 C -11.62000000 5.18200000 -13.20200000  
 N -13.08700000 5.41200000 -13.07700000  
 C -10.81700000 0.57600000 -14.96100000  
 O -11.58600000 0.47100000 -14.02400000  
 O -11.01200000 0.04200000 -16.09200000



N -11.05500000 -2.44700000 -15.22700000  
 C -10.86600000 -3.72300000 -14.46600000  
 C -9.42400000 -3.79700000 -13.93400000  
 C -8.47900000 -4.23100000 -15.06100000  
 S -6.76200000 -4.58900000 -14.61000000  
 C -6.97800000 -6.31800000 -14.11700000  
 C -11.84900000 -3.77000000 -13.29000000  
 O -11.89800000 -2.86400000 -12.48400000  
 N -12.60000000 -4.83800000 -13.24100000  
 C -13.62200000 -5.05100000 -12.16600000  
 C -14.09900000 -6.52500000 -12.24400000  
 C -12.91000000 -7.52200000 -12.10200000  
 C -12.79000000 -8.03300000 -10.63700000  
 C -12.96600000 -9.56200000 -10.58900000  
 N -14.35100000 -9.93600000 -10.99700000  
 C -13.13900000 -4.73100000 -10.73700000  
 O -13.88900000 -4.18400000 -9.95200000  
 N -11.90700000 -5.07700000 -10.44900000  
 C -11.32200000 -4.82400000 -9.09400000  
 C -9.86100000 -5.30000000 -9.08700000  
 S -8.58100000 -4.11000000 -9.55700000  
 C -11.37500000 -3.34500000 -8.67300000  
 O -11.51700000 -3.04200000 -7.50400000  
 N -11.25800000 -2.47500000 -9.64400000  
 C -11.29100000 -1.00100000 -9.39200000  
 C -10.35900000 -0.31100000 -10.39400000  
 S -8.67100000 -0.95000000 -10.52000000  
 C -12.73500000 -0.53100000 -9.58800000  
 O -13.28200000 0.19700000 -8.78400000  
 N -13.28900000 -0.99000000 -10.68100000  
 C -14.68900000 -0.66000000 -11.07000000  
 C -14.73100000 0.76000000 -11.67100000  
 C -15.13600000 -1.70300000 -12.11300000  
 O -16.11300000 -2.37400000 -11.82800000  
 O -14.47200000 -1.77400000 -13.13600000  
 H -2.37500000 -4.06400000 -16.16300000  
 H -0.96600000 -3.72800000 -17.05000000  
 H -2.07000000 -4.88900000 -17.61700000  
 H -1.59900000 -6.33400000 -15.80000000  
 H -0.06800000 -6.28300000 -17.85100000  
 H 1.04000000 -5.28300000 -16.92900000  
 H 1.34200000 -7.06500000 -15.26100000  
 H 0.09700000 -8.04300000 -16.01900000  
 H 1.52100000 -8.06700000 -18.13200000  
 H 2.79600000 -7.27500000 -17.20800000  
 H 2.50500000 -9.33600000 -15.61900000  
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5. *Bovine lactoferricin (1lfc)* [5]

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H 0.30700000 -3.49800000 1.97200000  
H 0.75100000 -2.05800000 1.05500000  
H -2.26800000 -3.94300000 2.34600000  
H -4.31900000 -2.38600000 2.20600000  
H -0.19200000 -0.06400000 -0.13200000  
H -4.98000000 0.21900000 1.17100000  
H -1.52300000 1.96400000 -0.69800000  
H -3.91500000 2.10500000 -0.04800000  
H 1.23200000 -3.97800000 -2.42600000  
H 3.56700000 -5.45700000 -1.39400000  
H 2.64300000 -6.27400000 -3.41400000  
H 2.46700000 -4.65300000 -4.08700000  
H 4.81600000 -4.43400000 -4.43600000  
H 5.17000000 -5.84000000 -3.43100000  
H 5.25800000 -7.79500000 -6.36200000  
H 6.05900000 -7.29400000 -4.95200000  
H 5.19200000 -4.22600000 -0.50700000  
H 5.67100000 -1.48900000 -0.76900000  
H 7.28800000 -3.92600000 -0.15300000  
H 8.12800000 -2.38200000 -0.32300000  
H 6.13700000 -4.35900000 2.05700000  
H 5.55500000 -2.96600000 4.13800000  
H 7.43400000 0.24000000 0.39100000  
H 5.64100000 -0.23200000 4.99200000  
H 7.18700000 2.24200000 1.83700000  
H 6.28600000 2.00900000 4.13900000  
H 5.71300000 -0.54900000 -2.82900000  
H 7.06500000 -1.81800000 -5.08900000  
H 5.72800000 0.83600000 -4.52600000  
H 6.49700000 0.50000000 -6.07700000  
H 5.02200000 -1.32300000 -6.52700000  
H 4.42700000 -1.34200000 -4.86700000  
H 2.69800000 -0.15600000 -5.86800000  
H 3.78500000 1.19900000 -5.50200000  
H 4.63300000 0.13600000 -7.97400000  
H 1.63300000 -0.18500000 -8.30000000  
H 1.20400000 1.32700000 -9.02600000  
H 4.18600000 2.88300000 -8.18100000  
H 2.65000000 3.06400000 -8.95900000  
H 8.60300000 -0.06600000 -6.32900000  
H 10.92000000 0.25700000 -4.55900000  
H 10.72300000 1.26500000 -7.38400000  
H 12.09300000 0.52500000 -6.56800000  
H 10.45600000 -1.56700000 -6.44100000  
H 9.72300000 -0.78100000 -7.84000000  
H 10.80400000 -3.46000000 -7.52900000  
H 12.08400000 -3.87500000 -8.66800000  
H 12.49500000 -3.45000000 -7.00900000  
H 11.98700000 2.29300000 -4.21500000  
H 10.65900000 4.80900000 -4.98300000  
H 10.04300000 3.41200000 -2.55600000  
H 10.89400000 4.90200000 -2.14700000  
H 9.22500000 5.86000000 -4.03800000  
H 8.23600000 4.53500000 -3.42400000  
H 7.69500000 6.45700000 -2.09400000  
H 8.70600000 5.42000000 -1.08700000  
H 10.63400000 6.79800000 -1.42700000  
H 9.84900000 7.68700000 -2.74600000  
H 8.53200000 7.56400000 -0.12300000  
H 9.82000000 8.64700000 -0.33300000  
H 8.44100000 8.76800000 -1.31700000  
H 11.85900000 6.30300000 -2.86300000  
H 14.39200000 6.94000000 -3.89800000  
H 13.63700000 7.14200000 -0.97800000  
H 14.65200000 8.23700000 -1.91000000  
H 12.18000000 8.11000000 -3.27700000  
H 11.79000000 8.29900000 -1.56700000  
H 12.90100000 10.34100000 -1.39900000  
H 13.94800000 9.99900000 -2.77700000  
H 12.48500000 10.97200000 -4.21000000  
H 11.13700000 10.01700000 -3.56100000  
H 12.33400000 12.39800000 -2.24300000  
H 10.86700000 12.39800000 -3.10100000  
H 11.01300000 11.49500000 -1.67300000  
H 16.24000000 6.86300000 -1.87000000  
H 17.33300000 4.22100000 -2.11800000  
H 19.15500000 5.20700000 -0.80000000  
H 18.61100000 6.34500000 -2.03500000  
H 16.97700000 6.77300000 0.24400000  
H 18.93400000 5.54900000 1.39000000  
H 19.90200000 6.96600000 0.98000000  
H 18.49800000 7.13200000 2.03400000  
H 19.12300000 8.24100000 -1.25800000  
H 17.40800000 8.62500000 -1.10200000  
H 18.50700000 8.93200000 0.24200000  
H 17.30400000 2.53400000 -0.66500000  
H 16.46700000 1.24800000 1.12200000  
H 17.14200000 2.55400000 2.08800000  
H 14.34200000 2.52100000 -0.11900000  
H 12.45800000 2.73700000 2.11800000  
H 13.79000000 5.01600000 1.36100000  
H 12.32600000 5.11600000 0.38300000  
H 12.20700000 4.99800000 2.13900000  
H 10.50000000 1.07100000 -1.62100000  
H 11.03100000 1.32500000 2.41900000  
H 12.28600000 0.39200000 1.57500000  
H 8.89800000 -0.69100000 -0.25700000  
H 10.59000000 -1.03700000 -0.67500000  
H 9.41400000 -0.19800000 1.91700000  
H 10.76200000 -1.29500000 1.58900000  
H 7.96700000 0.77200000 -1.96300000  
H 6.45300000 2.80800000 -0.37000000

H 7.3700000 2.9080000 -3.1260000  
 H 5.6130000 3.0040000 -3.0500000  
 H 7.0750000 4.5010000 -1.2090000  
 H 5.1230000 1.1940000 0.6050000  
 H 3.9470000 -0.9700000 -0.9370000  
 H 4.4660000 -0.4420000 1.6960000  
 H 1.4700000 -0.1610000 1.3380000  
 H 2.2950000 -0.3860000 2.8790000  
 H 2.5640000 1.0840000 1.9440000  
 H 2.3550000 -2.3750000 0.7120000  
 H 4.0880000 -2.6400000 0.5540000  
 H 3.8120000 -1.9690000 3.2230000  
 H 2.3670000 -2.9290000 2.9080000  
 H 3.9630000 -3.6100000 2.5950000  
 H 2.4160000 -0.5870000 -2.4450000  
 H 0.4330000 1.6100000 -1.9650000  
 H 1.2110000 0.2220000 -4.5480000  
 H 2.2800000 2.4740000 -4.6750000  
 H -0.4490000 2.6030000 -3.7960000  
 H 0.3880000 2.5900000 -5.3490000  
 H -0.7900000 1.3320000 -4.9710000  
 H -1.7510000 1.0420000 -3.1230000  
 H -2.7100000 -1.4820000 -1.9980000  
 H -4.0120000 0.6050000 -1.9570000  
 H -3.9960000 0.6640000 -3.7190000  
 H -2.4880000 -3.3970000 -3.1110000  
 H -2.4000000 -3.2720000 -6.0910000  
 H -0.9270000 -5.1010000 -6.0040000  
 H -0.5650000 -3.6380000 -3.3750000  
 H 0.6250000 -4.7370000 -4.0680000  
 H 0.2000000 -3.2510000 -4.9160000  
 H -2.2980000 -5.7430000 -3.3900000  
 H -2.2030000 -6.7300000 -4.8500000  
 H -0.7730000 -6.5070000 -3.8420000  
 H -4.7730000 -3.2860000 -4.3400000  
 H -6.3100000 -5.3240000 -5.7850000  
 H -5.1820000 -5.7800000 -3.1490000  
 H -6.9430000 -5.8660000 -3.0930000  
 H -5.9810000 -7.2090000 -5.4590000  
 H -5.1630000 -7.8520000 -4.0350000  
 H -7.0860000 -9.1600000 -3.9930000  
 H -7.6680000 -7.7720000 -3.0530000  
 H -8.6020000 -6.8580000 -5.1880000  
 H -7.0350000 -8.7670000 -6.9730000  
 H -8.2770000 -9.8740000 -7.4520000  
 H -10.4830000 -8.8880000 -4.9650000  
 H -10.2290000 -9.9430000 -6.3150000  
 H -8.3790000 -4.5110000 -6.0600000  
 H -9.1600000 -2.1760000 -4.3760000  
 H -10.1020000 -3.1770000 -7.0860000  
 H -10.5910000 -1.6670000 -6.3260000  
 H -8.1490000 -1.0140000 -6.2530000  
 H -7.8160000 -2.4310000 -7.2490000  
 H -8.3310000 -1.2090000 -9.0850000  
 H -9.9880000 -1.0380000 -8.4720000  
 H -7.8060000 0.9230000 -8.1100000  
 H -8.4990000 1.6360000 -5.7030000  
 H -10.0890000 2.3220000 -5.7140000

H -10.9220000 1.0080000 -8.8140000  
 H -11.4610000 1.9670000 -7.4750000  
 H -9.5600000 -4.4980000 -3.0260000  
 H -12.1270000 -5.7560000 -3.5790000  
 H -9.8660000 -6.3330000 -2.1400000  
 H -10.9810000 -5.8630000 -0.8560000  
 H -11.4000000 -7.1820000 -1.9490000  
 H -14.0620000 -4.7670000 -3.1750000  
 H -14.6020000 -2.3200000 -2.0540000  
 H -16.0320000 -4.9260000 -2.2740000  
 H -16.7740000 -3.6990000 -1.2480000  
 H -16.8750000 -1.2690000 -2.2790000  
 H -16.4440000 -4.8740000 -4.5740000  
 H -17.7120000 -0.0870000 -4.2920000  
 H -17.2820000 -3.6920000 -6.5870000  
 H -17.9160000 -1.2990000 -6.4460000

6.  $\alpha$ -conotoxin mii (1m2c) [5]

N 15.6340000 14.6160000 -13.0350000  
 C 16.3740000 15.8230000 -12.5520000  
 C 16.6010000 16.9570000 -13.5650000  
 O 16.4070000 16.7720000 -14.7600000  
 N 17.0440000 18.1640000 -13.2170000  
 C 17.2600000 18.6750000 -11.8320000  
 C 18.3710000 19.7330000 -11.9340000  
 S 19.2810000 19.9410000 -10.3820000  
 C 15.9660000 19.0900000 -11.0490000  
 O 15.5930000 18.3820000 -10.1130000  
 N 15.2430000 20.1390000 -11.4830000  
 C 13.8720000 20.5230000 -10.9940000  
 C 13.4380000 21.5510000 -12.0710000  
 S 11.9020000 22.4460000 -11.7180000  
 C 12.7950000 19.3830000 -10.7990000  
 O 11.9860000 19.4550000 -9.8710000  
 N 12.8200000 18.3270000 -11.6330000  
 C 11.9860000 17.1110000 -11.5030000  
 C 11.9360000 16.5800000 -12.9560000  
 O 13.2090000 16.2590000 -13.5390000  
 C 12.4080000 16.0160000 -10.4570000  
 O 11.5760000 15.1930000 -10.0770000  
 N 13.6480000 16.0190000 -9.9340000  
 C 13.9640000 15.3960000 -8.6310000  
 C 15.4670000 15.0270000 -8.6490000  
 C 15.8110000 13.6980000 -9.2800000  
 O 16.1140000 13.5570000 -10.4570000  
 N 15.8220000 12.7170000 -8.4340000  
 C 13.7550000 16.4340000 -7.4810000  
 O 14.3390000 17.5170000 -7.5780000  
 N 13.0550000 16.1530000 -6.3510000  
 C 12.9510000 17.1260000 -5.2230000  
 C 12.4450000 14.8380000 -6.0650000  
 C 11.8670000 16.4770000 -4.3600000  
 C 11.9760000 14.9700000 -4.6130000  
 C 14.2660000 17.5840000 -4.5060000  
 O 14.3670000 18.7160000 -4.0400000

N 15.29700000 16.74500000 -4.53900000  
 C 16.65900000 17.03600000 -4.01700000  
 C 17.26900000 15.63900000 -3.62200000  
 C 18.79400000 15.63900000 -3.35100000  
 C 16.61500000 15.03300000 -2.35500000  
 C 17.51000000 17.91500000 -4.97500000  
 O 17.94800000 19.00100000 -4.58400000  
 N 17.72300000 17.49600000 -6.23400000  
 C 18.42600000 18.33100000 -7.24100000  
 C 18.83200000 17.43400000 -8.43500000  
 S 19.98900000 18.22800000 -9.59000000  
 C 17.81000000 19.69700000 -7.63300000  
 O 18.49600000 20.70300000 -7.82900000  
 N 16.49000000 19.73000000 -7.57700000  
 C 15.67200000 20.95400000 -7.52000000  
 N 11.74300000 20.87100000 -7.34300000  
 N 11.66500000 22.97000000 -6.28600000  
 C 11.06100000 22.02700000 -7.06600000  
 C 12.93300000 22.41900000 -6.20700000  
 C 12.98800000 21.17800000 -6.83700000  
 C 14.21200000 20.44100000 -7.37200000  
 C 16.11600000 21.94600000 -6.40800000  
 O 16.15200000 23.14300000 -6.64900000  
 N 16.34800000 21.44200000 -5.19900000  
 C 16.54300000 22.30600000 -3.98200000  
 C 15.79600000 21.70200000 -2.76400000  
 C 14.24800000 21.70500000 -2.86600000  
 C 13.63200000 20.89400000 -1.71900000  
 C 13.63400000 23.12000000 -2.84800000  
 C 18.00300000 22.74900000 -3.67700000  
 O 18.24700000 23.91500000 -3.36200000  
 N 18.97400000 21.86700000 -3.92000000  
 C 20.36600000 22.22200000 -4.26800000  
 C 20.85500000 20.90600000 -4.91900000  
 C 21.26800000 19.74400000 -3.98000000  
 C 21.62700000 18.43300000 -4.68600000  
 O 21.65300000 18.29000000 -5.90600000  
 O 21.89800000 17.43800000 -3.79500000  
 C 20.63700000 23.44800000 -5.20200000  
 O 21.61400000 24.17700000 -5.02000000  
 N 19.79800000 23.63300000 -6.22600000  
 C 19.78600000 24.86700000 -7.04000000  
 N 22.78400000 23.32200000 -8.09000000  
 N 24.23100000 25.10800000 -7.55700000  
 C 24.01500000 23.75600000 -7.66700000  
 C 22.96500000 25.59400000 -7.87600000  
 C 22.10100000 24.52300000 -8.18200000  
 C 20.58200000 24.60900000 -8.33300000  
 C 18.30900000 25.29000000 -7.27000000  
 O 17.72600000 25.05600000 -8.32800000  
 N 17.69700000 25.88200000 -6.23600000  
 C 16.26300000 26.27100000 -6.24900000  
 C 15.75600000 26.38400000 -4.79300000  
 O 14.33200000 26.27200000 -4.75200000  
 C 15.83200000 27.46600000 -7.14800000  
 O 14.75900000 27.46000000 -7.74800000  
 N 16.77300000 28.38300000 -7.34100000  
 C 16.90100000 29.19000000 -8.59100000  
 C 18.26400000 29.93500000 -8.51600000  
 C 19.57700000 29.13900000 -8.68200000  
 O 19.81400000 28.09500000 -8.08000000  
 N 20.47200000 29.60000000 -9.51700000  
 C 16.71800000 28.47500000 -9.97500000  
 O 16.10300000 29.02300000 -10.88900000  
 N 17.26900000 27.26200000 -10.10200000  
 C 17.11700000 26.42000000 -11.32300000  
 C 18.42800000 25.62300000 -11.57600000  
 C 19.75500000 26.41800000 -11.72300000  
 C 20.92000000 25.44700000 -11.95200000  
 C 19.73000000 27.44300000 -12.86900000  
 C 15.85000000 25.49400000 -11.39600000  
 O 15.60000000 24.90300000 -12.45000000  
 N 15.03200000 25.36700000 -10.33300000  
 C 13.60500000 24.98500000 -10.48300000  
 C 13.26800000 24.00100000 -9.35800000  
 S 11.80200000 23.05300000 -9.80800000  
 C 12.59100000 26.17600000 -10.52100000  
 O 11.70700000 26.22400000 -11.36800000  
 O 12.60800000 26.93600000 -9.51400000  
 H 16.14900000 14.18800000 -13.81800000  
 H 15.54900000 13.93500000 -12.26700000  
 H 14.69500000 14.89300000 -13.35300000  
 H 15.84400000 16.27000000 -11.69400000  
 H 17.38400000 15.55000000 -12.19300000  
 H 17.28100000 18.71200000 -14.04100000  
 H 17.74500000 17.87500000 -11.24900000  
 H 19.14300000 19.39700000 -12.64900000  
 H 17.99600000 20.69800000 -12.32200000  
 H 15.58600000 20.50300000 -12.37600000  
 H 13.96100000 21.07200000 -10.01700000  
 H 14.20900000 22.33600000 -12.21600000  
 H 13.31700000 21.07400000 -13.06300000  
 H 13.57100000 18.28900000 -12.32000000  
 H 10.95600000 17.40500000 -11.22000000  
 H 11.31100000 15.68600000 -12.96400000  
 H 11.39500000 17.30100000 -13.60400000  
 H 13.07800000 16.33000000 -14.49700000  
 H 14.22200000 16.81900000 -10.20600000  
 H 13.34800000 14.49700000 -8.43300000  
 H 16.10000000 15.83200000 -9.06500000  
 H 15.81400000 14.97800000 -7.61100000  
 H 16.36700000 11.91100000 -8.73200000  
 H 15.70700000 13.08800000 -7.48700000  
 H 12.52400000 18.05900000 -5.58400000  
 H 13.15300000 13.99900000 -6.16800000  
 H 11.64100000 14.61900000 -6.78800000  
 H 11.96600000 16.77700000 -3.30600000  
 H 10.86600000 16.83100000 -4.67900000  
 H 12.71000000 14.52000000 -3.92400000  
 H 11.03400000 14.43200000 -4.41700000  
 H 15.09300000 15.92800000 -5.11000000  
 H 16.56700000 17.70300000 -3.14900000  
 H 17.06800000 14.94000000 -4.47300000  
 H 19.07000000 16.31700000 -2.52000000  
 H 19.17100000 14.63300000 -3.08000000  
 H 19.38300000 15.95400000 -4.23300000

H 15.52000000 14.92000000 -2.45800000  
 H 17.00700000 14.02400000 -2.12000000  
 H 16.78400000 15.65800000 -1.45600000  
 H 17.35500000 16.57500000 -6.42200000  
 H 19.25900000 18.67000000 -6.65900000  
 H 19.32500000 16.51000000 -8.07400000  
 H 17.94000000 17.11200000 -8.99700000  
 H 16.12200000 18.79900000 -7.38700000  
 H 15.79200000 21.44400000 -8.47000000  
 H 11.55600000 20.20900000 -8.11600000  
 H 11.28800000 23.83700000 -5.87600000  
 H 10.35000000 22.38000000 -7.80700000  
 H 13.83300000 22.94800000 -5.98700000  
 H 13.96400000 19.80400000 -8.23000000  
 H 14.31000000 19.74700000 -6.51400000  
 H 16.63900000 20.44600000 -5.32500000  
 H 16.06100000 23.27700000 -4.17200000  
 H 16.16000000 20.66800000 -2.60100000  
 H 16.08500000 22.24400000 -1.84100000  
 H 13.97700000 21.19900000 -3.81400000  
 H 14.00900000 19.85500000 -1.70600000  
 H 13.85300000 21.33400000 -0.72900000  
 H 12.53200000 20.82600000 -1.81100000  
 H 13.88400000 23.66700000 -1.91900000  
 H 13.97600000 23.75000000 -3.68700000  
 H 12.53000000 23.08900000 -2.91600000  
 H 18.73700000 20.86600000 -3.86100000  
 H 20.93400000 22.42200000 -3.35700000  
 H 20.14200000 20.54500000 -5.68800000  
 H 21.71300000 21.16900000 -5.51500000  
 H 22.11800000 20.05000000 -3.34200000  
 H 20.43300000 19.53800000 -3.29300000  
 H 22.11000000 16.61800000 -4.24100000  
 H 18.96000000 23.04600000 -6.14700000  
 H 20.27000000 25.70700000 -6.51700000  
 H 22.39100000 22.37500000 -8.06400000  
 H 25.09000000 25.62000000 -7.30800000  
 H 24.76800000 23.04000000 -7.33400000  
 H 22.63900000 26.62600000 -7.78200000  
 H 20.16400000 23.68600000 -8.77300000  
 H 20.35100000 25.42600000 -9.03600000  
 H 18.03600000 25.44600000 -5.39500000  
 H 15.79600000 25.41200000 -6.70700000  
 H 16.19100000 25.59900000 -4.14200000  
 H 16.08200000 27.34600000 -4.34600000  
 H 14.01600000 26.86700000 -4.05900000  
 H 17.58800000 27.96700000 -6.87800000  
 H 16.10100000 29.95300000 -8.55900000  
 H 18.21900000 30.72800000 -9.28200000  
 H 18.33200000 30.46300000 -7.55100000  
 H 21.32400000 29.04400000 -9.60100000  
 H 20.21400000 30.43200000 -10.05700000  
 H 17.58800000 26.89300000 -9.19500000  
 H 16.99900000 27.10100000 -12.17700000  
 H 18.53300000 24.87200000 -10.77200000  
 H 18.28400000 25.02400000 -12.49700000  
 H 19.94300000 26.97000000 -10.78200000  
 H 20.97800000 24.67100000 -11.17000000

H 20.82400000 24.92100000 -12.92100000  
 H 21.89000000 25.97700000 -11.96000000  
 H 19.50200000 26.97800000 -13.84700000  
 H 18.97000000 28.22900000 -12.70100000  
 H 20.69600000 27.97100000 -12.97800000  
 H 15.38000000 25.85400000 -9.49800000  
 H 13.46100000 24.44700000 -11.43700000  
 H 14.02000000 23.22400000 -9.19300000  
 H 13.21500000 24.55200000 -8.39900000

7. *ω-conotoxin mviia* (10mg) [5]

N -1.66700000 -8.43300000 4.89900000  
 C -1.70400000 -7.33600000 3.88900000  
 C -0.29000000 -6.90600000 3.51100000  
 S 0.83800000 -8.31800000 3.61000000  
 C -2.39000000 -7.81500000 2.61900000  
 O -2.89400000 -8.91700000 2.53400000  
 N -2.37600000 -6.98500000 1.62400000  
 C -2.98000000 -7.34200000 0.32300000  
 C -4.06800000 -6.32300000 -0.02400000  
 C -5.20200000 -6.42000000 0.99800000  
 C -6.52400000 -6.03500000 0.32900000  
 C -7.04300000 -4.73100000 0.93700000  
 N -8.39800000 -4.95600000 1.51200000  
 C -1.86900000 -7.31700000 -0.71900000  
 O -0.72000000 -7.56900000 -0.42100000  
 N -2.19700000 -7.01600000 -1.92700000  
 C -1.16300000 -6.97200000 -2.98700000  
 C -1.29300000 -5.67600000 -3.78700000  
 O -1.43200000 -4.59700000 -3.24300000  
 N -1.23900000 -5.78400000 -5.07800000  
 C -1.33600000 -4.58100000 -5.93900000  
 C -0.82700000 -4.91500000 -7.34200000  
 C 0.30700000 -3.95700000 -7.71300000  
 C 0.10000000 -3.44500000 -9.13900000  
 C 1.41500000 -2.86900000 -9.66800000  
 N 1.44700000 -2.98700000 -11.15400000  
 C -2.78500000 -4.10600000 -6.02700000  
 O -3.71200000 -4.89100000 -6.00800000  
 N -2.98300000 -2.82200000 -6.13400000  
 C -4.36500000 -2.28400000 -6.23600000  
 C -5.02200000 -2.28000000 -4.85600000  
 O -6.13800000 -1.82600000 -4.69300000  
 N -4.34800000 -2.78300000 -3.85700000  
 C -4.95500000 -2.80000000 -2.49900000  
 C -4.23100000 -3.81600000 -1.62500000  
 C -4.83900000 -1.41800000 -1.86100000  
 O -3.77800000 -0.83000000 -1.81600000  
 N -5.92000000 -0.90100000 -1.35900000  
 C -5.87100000 0.44200000 -0.71700000  
 C -7.25300000 0.79500000 -0.16300000  
 C -7.50600000 2.29500000 -0.32900000  
 C -7.85000000 2.91000000 1.02900000  
 C -6.59800000 3.54300000 1.63800000  
 N -6.71400000 5.02700000 1.58100000



C -4.85300000 0.41000000 0.42200000  
O -4.90500000 -0.44300000 1.28700000  
N -3.91700000 1.32100000 0.43300000  
C -2.90000000 1.31200000 1.51900000  
C -1.72200000 0.43600000 1.09500000  
S -0.79100000 1.25600000 -0.22400000  
C -2.39800000 2.73100000 1.79800000  
O -2.79700000 3.68300000 1.15700000  
N -1.51500000 2.86800000 2.74900000  
C -0.96000000 4.21000000 3.08100000  
C -1.52300000 4.68400000 4.42100000  
O -0.77900000 4.09300000 5.47900000  
C 0.56500000 4.09900000 3.17400000  
O 1.09200000 3.32000000 3.94200000  
N 1.27400000 4.85700000 2.38000000  
C 2.76500000 4.78300000 2.40100000  
C 3.36000000 6.04800000 1.77000000  
C 2.57700000 7.28600000 2.22100000  
C 2.51300000 8.28900000 1.06700000  
N 3.61900000 9.28000000 1.20500000  
C 3.34700000 10.53000000 1.46500000  
N 2.64700000 10.83700000 2.52200000  
N 3.77400000 11.47100000 0.66800000  
C 3.27200000 4.64100000 3.83900000  
O 4.01100000 3.72800000 4.15300000  
N 2.88900000 5.52600000 4.71400000  
C 3.36200000 5.41900000 6.12300000  
C 2.67300000 6.48200000 6.97900000  
C 3.48600000 6.71000000 8.25500000  
C 4.13400000 8.09500000 8.20700000  
C 2.56200000 6.62300000 9.47000000  
C 3.02800000 4.02700000 6.66500000  
O 3.90200000 3.26100000 7.01700000  
N 1.76900000 3.69200000 6.72600000  
C 1.37700000 2.34500000 7.23700000  
C 0.14300000 2.47500000 8.13300000  
C 0.50900000 3.24200000 9.40600000  
S -0.59300000 2.73600000 10.75000000  
C 0.67000000 2.59000000 12.03700000  
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O -0.00400000 0.83700000 5.98400000  
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C 4.17400000 -1.92800000 3.32900000  
C 5.29400000 -1.17500000 5.78300000  
C 5.01500000 -2.81200000 4.01600000  
C 5.57600000 -2.43500000 5.24300000  
O 6.40500000 -3.30500000 5.92000000  
C 1.15800000 -0.88500000 4.35200000  
O 1.82200000 -1.63500000 5.04100000  
N -0.03100000 -1.21900000 3.94200000  
C -0.60600000 -2.53800000 4.31000000  
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O -1.63200000 -2.20400000 6.91500000  
O -3.05900000 -0.81500000 6.09400000  
C -0.41100000 -3.50600000 3.14000000  
O -1.07900000 -4.51500000 3.03900000  
N 0.50500000 -3.20500000 2.25400000  
C 0.74900000 -4.10800000 1.09300000  
C 1.23900000 -3.28600000 -0.10600000  
S 0.28700000 -1.74800000 -0.22600000  
C 1.81500000 -5.13900000 1.47800000  
O 2.76000000 -4.83400000 2.17800000  
N 1.67400000 -6.35800000 1.03000000  
C 2.68300000 -7.39800000 1.37700000  
C 2.18500000 -8.77500000 0.92500000  
S 0.65900000 -9.20300000 1.80300000  
C 3.99400000 -7.08100000 0.66100000  
O 5.03900000 -6.97900000 1.27200000  
N 3.94500000 -6.93300000 -0.63300000  
C 5.18300000 -6.63200000 -1.39400000  
C 5.83300000 -7.94100000 -1.82300000  
O 4.83800000 -8.81800000 -2.33400000  
C 6.52300000 -8.59000000 -0.62200000  
C 4.82800000 -5.80600000 -2.63200000  
O 4.07000000 -6.23400000 -3.47900000  
N 5.36800000 -4.62400000 -2.74200000  
C 5.06000000 -3.77100000 -3.92300000  
C 5.32900000 -2.30800000 -3.57700000  
O 6.45800000 -1.90200000 -3.38600000  
N 4.30100000 -1.51100000 -3.49300000  
C 4.50300000 -0.07500000 -3.15900000  
C 4.68300000 0.72700000 -4.44900000  
O 5.93700000 0.40000000 -5.03500000  
C 3.29100000 0.45100000 -2.39400000  
O 2.46000000 -0.30400000 -1.92900000  
N 3.18400000 1.74200000 -2.25800000  
C 2.03100000 2.32300000 -1.52400000  
C 2.13900000 1.99000000 -0.03900000  
S 0.56700000 2.37300000 0.76800000  
C 2.05200000 3.83500000 -1.71100000  
O 2.78700000 4.54200000 -1.05000000  
N 1.26900000 4.33700000 -2.61900000  
C 1.26800000 5.80100000 -2.85700000  
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C 2.13100000 7.54400000 -4.43500000  
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O -2.23900000 8.79700000 -5.68500000  
C -2.95400000 7.12400000 -2.70900000  
O -4.13400000 7.28700000 -2.95000000  
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C -3.80400000 4.17700000 -1.62500000

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C -3.53500000 2.56300000 -4.45200000  
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C -6.79800000 3.26200000 -6.12300000  
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C -0.81900000 -1.97300000 -3.04700000  
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H -0.97800000 -8.20100000 5.64000000  
H -2.61100000 -8.54400000 5.32400000  
H -2.23200000 -6.48800000 4.28700000  
H -0.30400000 -6.53000000 2.49900000  
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H -5.26700000 -7.43200000 1.36800000  
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H -7.10000000 -3.97400000 0.16800000  
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H -1.12400000 -6.65700000 -5.48000000  
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H -0.46300000 -5.93200000 -7.36000000  
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H 0.31100000 -3.12300000 -7.02600000  
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H -0.21800000 -4.26000000 -9.77200000  
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H 2.24300000 -3.41800000 -9.24500000  
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H 1.07600000 -2.11400000 -11.57900000  
H 2.42700000 -3.13700000 -11.46800000  
H -2.21700000 -2.20900000 -6.15300000  
H -4.33100000 -1.27600000 -6.62200000  
H -4.94400000 -2.90500000 -6.90300000  
H -3.44700000 -3.15000000 -3.99900000  
H -5.99700000 -3.07400000 -2.57600000  
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H -8.21900000 2.14000000 1.69000000  
H -6.49900000 3.22800000 2.66700000  
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H -6.04800000 5.40100000 0.87800000  
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H -1.07400000 0.27700000 1.93800000  
H -2.09000000 -0.51400000 0.73900000  
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H -1.22400000 4.91400000 2.30600000  
H -1.44400000 5.75600000 4.48800000  
H -2.56300000 4.39700000 4.49500000  
H -0.75200000 4.71800000 6.20700000  
H 0.82500000 5.46500000 1.75600000  
H 3.08200000 3.92200000 1.83100000  
H 4.39200000 6.14700000 2.07400000  
H 3.31200000 5.96700000 0.69500000  
H 1.57700000 7.00000000 2.50600000  
H 3.07600000 7.74100000 3.06200000  
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H 4.55000000 8.99200000 1.10200000  
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H 2.43800000 11.79500000 2.72200000  
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H 2.29300000 6.25700000 4.44700000  
H 4.43200000 5.56900000 6.15500000  
H 2.60800000 7.40600000 6.42300000  
H 1.68100000 6.14800000 7.24100000  
H 4.25500000 5.95500000 8.32900000  
H 3.79900000 8.62000000 7.32600000  
H 3.85300000 8.65400000 9.08700000  
H 5.20800000 7.98700000 8.17600000  
H 1.76700000 5.92100000 9.26800000  
H 3.12700000 6.29000000 10.32900000  
H 2.14100000 7.59700000 9.67300000  
H 1.07900000 4.32100000 6.42900000  
H 2.19400000 1.92200000 7.80300000  
H -0.63200000 3.00900000 7.60200000  
H -0.21400000 1.49200000 8.39900000  
H 1.53200000 3.02500000 9.67700000  
H 0.40100000 4.30200000 9.23100000  
H 1.63900000 2.46200000 11.57600000  
H 0.67600000 3.48500000 12.64000000  
H 0.44800000 1.73800000 12.66300000  
H 2.78800000 1.83600000 5.17700000

H 0.96000000 0.96200000 3.28400000  
 H 2.75800000 -0.11300000 2.15400000  
 H 3.47900000 1.24200000 3.02100000  
 H 4.23600000 0.68000000 5.51400000  
 H 3.74000000 -2.22000000 2.38400000  
 H 5.72700000 -0.88500000 6.72900000  
 H 5.23100000 -3.78500000 3.59900000  
 H 6.80600000 -2.82500000 6.64900000  
 H -0.54200000 -0.60500000 3.38300000  
 H -0.10200000 -2.92100000 5.18400000  
 H -2.54900000 -1.74300000 3.85700000  
 H -2.57400000 -3.34700000 4.59100000  
 H 1.03400000 -2.38700000 2.35500000  
 H -0.16700000 -4.61700000 0.83400000  
 H 2.28700000 -3.04700000 0.02300000  
 H 1.11200000 -3.86200000 -1.01200000  
 H 0.90800000 -6.58700000 0.46400000  
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 H 1.99200000 -8.75500000 -0.13700000  
 H 2.94200000 -9.51600000 1.13900000  
 H 3.09600000 -7.02500000 -1.10500000  
 H 5.86700000 -6.07700000 -0.77300000  
 H 6.55900000 -7.73800000 -2.58500000  
 H 5.10400000 -9.08400000 -3.21700000  
 H 7.05900000 -7.83700000 -0.06400000  
 H 5.78100000 -9.04900000 0.01400000  
 H 7.21600000 -9.34300000 -0.96800000  
 H 5.97600000 -4.29600000 -2.04700000  
 H 5.68500000 -4.06800000 -4.75400000  
 H 4.02200000 -3.88900000 -4.19200000  
 H 3.39700000 -1.85500000 -3.65100000  
 H 5.38200000 0.03100000 -2.54400000  
 H 3.89500000 0.48200000 -5.14100000  
 H 4.64500000 1.78400000 -4.22500000  
 H 6.06900000 -0.54700000 -4.94500000  
 H 3.86500000 2.33600000 -2.64200000  
 H 1.11500000 1.91900000 -1.91700000  
 H 2.35600000 0.94100000 0.07800000  
 H 2.92800000 2.57500000 0.40800000  
 H 0.68600000 3.75100000 -3.15000000  
 H 1.48700000 6.31700000 -1.93400000  
 H 3.31900000 6.05900000 -3.42800000  
 H 2.28700000 5.41700000 -4.70500000  
 H 1.71800000 7.48900000 -5.43200000  
 H 1.44900000 8.07800000 -3.79000000  
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 H 3.99100000 8.03100000 -5.39000000  
 H 2.31600000 10.10000000 -4.37900000  
 H 5.61400000 9.16100000 -4.14400000  
 H 6.22900000 10.76900000 -4.32800000  
 H 3.10500000 12.19700000 -4.79600000  
 H 4.80800000 12.48800000 -4.69200000  
 H 0.02200000 7.99800000 -2.47700000  
 H -1.97200000 8.93500000 -3.32100000  
 H -1.14700000 7.09700000 -5.35700000  
 H -2.88500000 6.92200000 -5.12900000  
 H -2.94600000 8.66100000 -6.31900000  
 H -1.60500000 6.18400000 -1.59300000

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 H -4.48800000 6.09400000 -0.94900000  
 H -2.01700000 4.15700000 -2.51000000  
 H -3.79500000 1.78200000 -2.47400000  
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 H -3.52000000 1.62500000 -4.97300000  
 H -5.36600000 3.04200000 -3.44000000  
 H -4.94600000 4.15400000 -4.74300000  
 H -5.20000000 1.82500000 -6.13400000  
 H -6.39400000 1.57800000 -4.85800000  
 H -7.70800000 2.73300000 -6.36100000  
 H -7.02500000 4.10000000 -5.48000000  
 H -5.18000000 3.43200000 -7.42400000  
 H -6.69200000 3.38900000 -8.19900000  
 H -6.19300000 4.79600000 -7.39400000  
 H -2.64000000 -0.13700000 -3.39600000  
 H 0.15400000 -0.13600000 -2.51200000  
 H -1.61000000 -2.28800000 -3.71200000  
 H 0.06700000 -2.55500000 -3.24400000

#### 8. $\alpha$ -conotoxin *pni1* (1pen) [5]

N -4.78800000 -8.93500000 3.45300000  
 C -4.21800000 -10.29400000 3.31200000  
 C -3.81500000 -10.53400000 1.87000000  
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 N -3.04500000 -11.59400000 1.65400000  
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 C -1.89500000 -13.33300000 0.37700000  
 S -1.01600000 -13.75200000 -1.15800000  
 C -3.48500000 -11.92200000 -0.84400000  
 O -3.22800000 -11.26300000 -1.85300000  
 N -4.59800000 -12.62700000 -0.70900000  
 C -5.52200000 -12.75800000 -1.81900000  
 C -6.44000000 -13.95800000 -1.58900000  
 S -5.49200000 -15.45100000 -1.11400000  
 C -6.26500000 -11.51700000 -2.28700000  
 O -6.83200000 -11.51300000 -3.38200000  
 N -6.25000000 -10.45900000 -1.48600000  
 C -6.89400000 -9.21200000 -1.88500000  
 C -7.68900000 -8.60700000 -0.72500000  
 O -6.86700000 -8.39100000 0.40700000  
 C -5.84400000 -8.21200000 -2.37400000  
 O -6.18600000 -7.13500000 -2.86100000  
 N -4.57100000 -8.58800000 -2.26800000  
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 C -2.38200000 -7.76800000 -1.58700000  
 C -1.24500000 -6.75400000 -1.67900000  
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 C -0.20100000 -7.09500000 -0.63400000  
 C -2.91300000 -8.25100000 -4.00900000  
 O -2.30100000 -9.31900000 -4.05700000  
 N -3.08600000 -7.48300000 -5.10200000  
 C -2.60900000 -7.90200000 -6.42800000  
 C -3.72500000 -6.15300000 -5.17000000  
 C -2.68800000 -6.61100000 -7.24800000

C -3.88900000 -5.93700000 -6.67000000  
C -1.24800000 -8.61300000 -6.54700000  
O -1.19000000 -9.74300000 -7.03700000  
N -0.15100000 -7.99600000 -6.06100000  
C 1.15900000 -8.65800000 -6.16800000  
C -0.03000000 -6.69300000 -5.38800000  
C 2.11000000 -7.67400000 -5.47900000  
C 1.41800000 -6.36900000 -5.56900000  
C 1.21200000 -10.00800000 -5.45700000  
O 1.86500000 -10.94300000 -5.92600000  
N 0.55200000 -10.10000000 -4.30900000  
C 0.56800000 -11.34200000 -3.55600000  
C 0.12500000 -11.11600000 -2.11600000  
S 0.59000000 -12.51900000 -1.05700000  
C -0.27000000 -12.44000000 -4.19700000  
O 0.19100000 -13.57900000 -4.33400000  
N -1.48700000 -12.09300000 -4.61400000  
C -2.38300000 -13.05600000 -5.24200000  
C -3.70500000 -12.38900000 -5.59900000  
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O -1.75900000 -14.89000000 -6.66000000  
N -1.13000000 -12.82800000 -7.31700000  
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C -0.07700000 -12.10400000 -9.40700000  
C 0.71800000 -14.19400000 -8.28900000  
O 1.02900000 -15.06900000 -9.09800000  
N 1.40900000 -13.97000000 -7.17800000  
C 2.57600000 -14.78100000 -6.84900000  
C 3.60700000 -13.95800000 -6.07900000  
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N 4.50400000 -11.74900000 -6.46500000  
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O 3.09000000 -16.91000000 -5.87900000  
N 0.97600000 -16.16800000 -5.66500000  
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C 0.44000000 -16.96800000 -3.42200000  
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O 2.60900000 -17.43200000 -2.53800000  
N 2.00700000 -15.27400000 -2.69100000  
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N -0.84000000 -18.26000000 -6.70100000  
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C 0.59800000 -22.02700000 -4.40500000  
O 0.66500000 -20.79200000 -4.59200000  
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O -3.45500000 -22.74600000 -3.82000000  
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C -4.23800000 -18.74800000 2.42900000  
O -4.91000000 -18.43400000 3.58900000  
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N -4.26800000 -18.74700000 -3.22800000  
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S -4.05800000 -15.63100000 -2.53800000  
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H -7.58000000 -9.37200000 -2.70800000  
H -8.50000000 -9.32200000 -0.44900000  
H -8.18300000 -7.65800000 -1.04300000  
H -6.51700000 -7.50200000 0.25300000  
H -4.33700000 -9.52200000 -1.99800000  
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9. *tertiapin (1ter) [5]*

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 H 0.07900000 2.19900000 6.22400000  
 H -0.08400000 3.26800000 4.80600000  
 H -1.80000000 4.53200000 5.94000000  
 H -1.87600000 3.38700000 7.24700000  
 H -0.35100000 4.50200000 8.35100000  
 H 0.82400000 4.24200000 7.03400000

H -1.14500000 6.25400000 6.77100000  
 H 0.10300000 6.49700000 7.78100000  
 H 0.37300000 6.15500000 6.18900000

10. *vacuolar targeting peptide (1vtp) [5]*

N -10.09700000 6.94100000 10.12000000  
 C -8.60900000 6.96600000 10.20700000  
 C -8.07900000 5.58000000 10.64200000  
 O -8.52100000 5.44900000 11.98500000  
 C -8.03800000 7.32700000 8.83200000  
 O -7.50600000 8.40300000 8.63200000  
 N -8.17400000 6.40700000 7.91200000  
 C -7.66500000 6.61800000 6.52000000  
 C -7.32300000 5.22400000 5.91900000  
 C -8.54600000 4.26100000 5.96600000  
 C -9.03300000 3.96400000 4.53600000  
 O -8.34700000 3.20000000 3.87700000  
 O -10.06200000 4.51700000 4.18000000  
 C -8.70300000 7.35400000 5.66000000  
 O -8.85200000 7.10100000 4.47900000  
 N -9.38500000 8.26100000 6.30800000  
 C -10.44100000 9.07300000 5.63700000  
 C -11.53300000 9.40600000 6.67900000  
 C -12.91900000 9.16000000 6.06200000  
 C -13.49800000 10.10200000 5.23200000  
 C -13.60600000 7.99300000 6.32800000  
 C -14.74200000 9.87800000 4.67800000  
 C -14.84900000 7.77100000 5.77400000  
 C -15.42600000 8.71000000 4.94600000  
 O -16.67000000 8.48400000 4.39300000  
 C -9.89900000 10.37000000 5.02000000  
 O -10.47200000 10.87400000 4.07300000  
 N -8.82200000 10.87500000 5.56700000  
 C -8.21100000 12.13900000 5.04000000  
 C -8.94800000 13.34200000 5.65800000  
 C -6.71500000 12.21100000 5.38200000  
 O -6.08100000 13.22700000 5.16900000  
 N -6.20000000 11.12700000 5.90300000  
 C -4.75600000 11.05000000 6.28000000  
 C -4.63700000 10.42300000 7.68100000  
 O -5.46700000 11.23700000 8.49600000  
 C -4.08800000 10.16500000 5.22400000  
 O -3.25100000 10.59900000 4.45500000  
 N -4.50100000 8.92400000 5.22000000  
 C -3.94700000 7.93600000 4.24700000  
 C -4.55400000 6.55300000 4.55100000  
 C -3.44200000 5.55900000 4.94900000  
 C -2.86900000 5.93600000 6.34600000  
 C -3.08500000 4.78100000 7.33600000  
 N -2.65800000 5.19900000 8.70000000  
 C -4.26600000 8.35000000 2.80500000  
 O -3.62500000 7.89300000 1.88400000  
 N -5.24200000 9.20700000 2.65500000  
 C -5.66900000 9.70400000 1.31500000  
 C -6.70200000 10.83200000 1.54900000



C -7.91700000 10.24500000 2.29100000  
C -6.07700000 12.01600000 2.32300000  
C -4.47500000 10.21000000 0.49400000  
O -4.37200000 9.97000000 -0.69400000  
N -3.61500000 10.89800000 1.19600000  
C -2.38500000 11.48100000 0.58300000  
C -2.07900000 12.83000000 1.27700000  
C -1.78800000 13.88900000 0.20000000  
O -0.68900000 13.83600000 -0.32800000  
O -2.68000000 14.68900000 -0.03500000  
C -1.17900000 10.54200000 0.71300000  
O -0.42800000 10.37300000 -0.22600000  
N -1.02400000 9.95800000 1.87200000  
C 0.12700000 9.02200000 2.10500000  
C 0.09400000 8.56600000 3.58200000  
C 0.20200000 9.78700000 4.52900000  
C 1.65000000 10.31300000 4.54700000  
O 2.39500000 9.83200000 5.38600000  
O 1.93200000 11.16700000 3.72100000  
C 0.09800000 7.78900000 1.17700000  
O 1.13000000 7.25000000 0.82800000  
N -1.09000000 7.38900000 0.81100000  
C -1.31100000 6.21200000 -0.08600000  
C -2.55800000 5.48300000 0.42100000  
C -2.67000000 4.07700000 -0.18800000  
C -1.99400000 3.00800000 0.36800000  
C -3.45600000 3.86300000 -1.30300000  
C -2.10800000 1.75200000 -0.18400000  
C -3.56800000 2.60500000 -1.85500000  
C -2.89300000 1.53900000 -1.29700000  
O -2.99800000 0.27500000 -1.84100000  
C -1.49100000 6.64200000 -1.55200000  
O -1.44700000 5.81500000 -2.44300000  
N -1.69400000 7.92100000 -1.76700000  
C -1.88400000 8.46000000 -3.16100000  
C -1.71400000 10.01900000 -3.12300000  
C -0.22700000 10.45700000 -3.10000000  
C -2.39200000 10.63800000 -4.36600000  
C -0.90100000 7.83500000 -4.17700000  
O -1.27200000 7.53000000 -5.29300000  
N 0.32700000 7.65400000 -3.75600000  
C 1.36500000 7.05500000 -4.65300000  
C 0.89000000 5.68500000 -5.16500000  
O 0.88600000 5.42600000 -6.35300000  
N 0.49200000 4.83600000 -4.25100000  
C 0.00900000 3.47800000 -4.64600000  
C -0.31300000 2.68500000 -3.36900000  
C 0.99200000 2.03700000 -2.85000000  
C 0.69400000 1.21200000 -1.58900000  
O 0.01800000 0.20700000 -1.74500000  
O 1.15500000 1.62800000 -0.53800000  
C -1.23700000 3.61100000 -5.53500000  
O -1.38900000 2.86500000 -6.48100000  
N -2.09700000 4.55300000 -5.22400000  
C -3.33400000 4.73800000 -6.05700000  
C -4.15800000 5.96900000 -5.56300000  
C -5.47500000 6.06900000 -6.37800000  
C -4.50300000 5.79900000 -4.07500000  
C -2.89000000 4.97800000 -7.50500000  
O -3.37000000 4.33800000 -8.41900000  
N -1.97200000 5.89800000 -7.66200000  
C -1.44200000 6.23400000 -9.01000000  
C -0.31000000 7.27600000 -8.86100000  
C 0.28900000 7.62400000 -10.25400000  
C 1.59200000 6.82700000 -10.47600000  
O 2.56000000 7.18800000 -9.82400000  
O 1.56200000 5.90600000 -11.27600000  
C -0.91200000 4.96200000 -9.68000000  
O -1.19900000 4.70100000 -10.82900000  
N -0.15400000 4.20400000 -8.93000000  
C 0.42900000 2.93200000 -9.46000000  
C 1.16500000 2.22100000 -8.30900000  
C 2.11200000 1.17000000 -8.89800000  
O 1.70700000 0.08500000 -9.26800000  
N 3.38100000 1.45500000 -9.00300000  
C -0.68600000 2.03600000 -10.02800000  
O -0.60000000 1.54100000 -11.13600000  
N -1.71300000 1.87000000 -9.23200000  
C -2.87400000 1.02200000 -9.65200000  
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O -5.31700000 -0.73800000 -7.78500000  
C -3.48300000 1.58300000 -10.94000000  
O -3.71500000 0.85600000 -11.88400000  
N -3.71900000 2.86800000 -10.92800000  
C -4.31100000 3.56500000 -12.10200000  
C -4.32000000 5.08800000 -11.80900000  
C -5.77800000 5.58100000 -11.63500000  
C -5.76800000 6.97900000 -10.97800000  
C -6.46500000 5.66900000 -13.01700000  
C -3.49700000 3.25400000 -13.35500000  
O -4.04600000 2.86100000 -14.36200000  
N -2.21000000 3.44600000 -13.22600000  
C -1.24200000 3.19200000 -14.33900000  
C 0.18200000 3.12800000 -13.73500000  
C 1.20300000 3.73400000 -14.71300000  
C 2.61800000 3.41200000 -14.21600000  
O 3.35200000 2.66700000 -14.83500000  
N 3.04500000 3.94800000 -13.10600000  
C -1.58400000 1.87000000 -15.05300000  
O -1.75000000 1.82400000 -16.25700000  
N -1.67700000 0.84000000 -14.25100000  
C -2.00400000 -0.53200000 -14.75200000  
C -1.80900000 -1.53400000 -13.59800000  
C -0.35100000 -1.47500000 -13.07800000  
C -0.28100000 -2.03800000 -11.64000000  
C -0.34800000 -3.58300000 -11.66000000  
N 0.54500000 -4.13600000 -10.60300000  
C -3.44200000 -0.65000000 -15.29200000  
O -3.64700000 -1.08900000 -16.40700000  
N -4.38400000 -0.24900000 -14.47300000  
C -5.83600000 -0.29600000 -14.82600000  
C -6.62200000 0.41800000 -13.69600000  
O -6.87200000 -0.60700000 -12.74100000  
C -6.14100000 0.34800000 -16.18800000

O -6.86700000 -0.20900000 -16.98800000  
N -5.56900000 1.50500000 -16.39800000  
C -5.75300000 2.26800000 -17.66800000  
C -6.68800000 3.46700000 -17.37400000  
C -7.27500000 4.02500000 -18.69700000  
C -8.68000000 4.60900000 -18.42000000  
C -9.30600000 5.10700000 -19.73300000  
N -10.48200000 5.97000000 -19.43100000  
C -4.35500000 2.71700000 -18.11800000  
O -3.92400000 3.82500000 -17.86300000  
N -3.69400000 1.80300000 -18.78300000  
C -2.31400000 2.04400000 -19.30800000  
C -1.58500000 0.65400000 -19.32100000  
C -2.27600000 -0.35000000 -20.28700000  
C -0.08900000 0.82100000 -19.69500000  
C -2.38000000 2.69700000 -20.70400000  
O -1.77700000 2.24000000 -21.65700000  
N -3.13100000 3.77100000 -20.76400000  
C -3.32000000 4.54500000 -22.03400000  
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C -3.43300000 -1.20700000 -25.72100000  
C -4.15700000 -2.48500000 -26.17700000  
O -4.59000000 -3.08700000 -24.96600000  
C -2.81900000 -0.49900000 -26.94500000  
O -3.57400000 0.18200000 -27.62200000  
O -1.62800000 -0.68100000 -27.13300000  
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H -10.41600000 5.98800000 9.85200000  
H -10.50100000 7.19400000 11.04400000  
H -8.31400000 7.72300000 10.91800000  
H -8.49800000 4.77900000 10.04900000  
H -7.00000000 5.53600000 10.61500000  
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H -8.61800000 5.56600000 8.14500000  
H -6.78700000 7.24100000 6.57300000  
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H -12.97800000 11.02300000 5.01100000  
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H -15.18300000 10.62300000 4.03200000  
H -15.37500000 6.85400000 5.99200000  
H -17.14400000 9.31900000 4.37400000  
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H -10.00900000 13.27100000 5.46800000  
H -8.78600000 13.37100000 6.72600000  
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H -3.62200000 10.46500000 8.04800000  
H -4.98100000 12.04000000 8.69700000  
H -5.18400000 8.64700000 5.86600000  
H -2.87600000 7.91000000 4.36700000  
H -5.24400000 6.64900000 5.37100000  
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H -3.85200000 4.55900000 4.95800000  
H -2.64900000 5.58900000 4.21500000  
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H -3.34400000 6.82600000 6.73300000  
H -4.12800000 4.50300000 7.37400000  
H -2.50000000 3.92300000 7.04000000  
H -1.79600000 5.77600000 8.63200000  
H -3.41400000 5.75700000 9.14500000  
H -2.46500000 4.35500000 9.27600000  
H -5.71700000 9.54400000 3.43800000  
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H -7.04700000 11.23600000 0.62400000  
H -8.24400000 9.33500000 1.80900000  
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H -8.73200000 10.95100000 2.27000000  
H -5.54300000 11.66300000 3.19000000  
H -5.38700000 12.54800000 1.68400000  
H -6.83900000 12.71500000 2.63100000  
H -3.79900000 11.02500000 2.14900000  
H -2.57200000 11.64500000 -0.46600000  
H -2.92400000 13.15000000 1.87200000  
H -1.21900000 12.74900000 1.92700000  
H -1.66400000 10.13800000 2.59100000  
H 1.04500000 9.55700000 1.91200000  
H -0.83200000 8.04600000 3.77400000  
H 0.91000000 7.88400000 3.77100000  
H -0.46000000 10.58200000 4.21600000  
H -0.07500000 9.49200000 5.53000000  
H -1.87500000 7.87100000 1.13200000  
H -0.45600000 5.55500000 -0.02100000  
H -2.51300000 5.39500000 1.49600000  
H -3.43900000 6.05100000 0.15800000  
H -1.37300000 3.15400000 1.24000000  
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H -1.57700000 0.92600000 0.26200000  
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H -1.72800000 8.52400000 -0.99600000  
H -2.89100000 8.21900000 -3.47100000  
H -2.20800000 10.40300000 -2.24300000  
H 0.34200000 9.83900000 -2.42300000  
H 0.20700000 10.37900000 -4.08600000  
H -0.15500000 11.48300000 -2.77300000  
H -3.43100000 10.34500000 -4.41400000

H -2.34000000 11.71700000 -4.31500000  
H -1.89700000 10.31100000 -5.26800000  
H 0.56000000 7.91800000 -2.84300000  
H 1.52900000 7.71300000 -5.49500000  
H 2.28400000 6.93400000 -4.10000000  
H 0.50500000 5.08400000 -3.30300000  
H 0.78100000 2.98400000 -5.22200000  
H -0.72400000 3.33700000 -2.61300000  
H -1.03700000 1.91700000 -3.59100000  
H 1.40800000 1.38200000 -3.60200000  
H 1.72100000 2.80200000 -2.61700000  
H -1.92000000 5.12100000 -4.44700000  
H -3.91600000 3.82700000 -6.02000000  
H -3.59400000 6.88000000 -5.69700000  
H -5.95100000 5.10200000 -6.45100000  
H -6.16200000 6.75700000 -5.90700000  
H -5.27100000 6.42700000 -7.37700000  
H -4.79600000 4.77900000 -3.87500000  
H -3.64100000 6.03900000 -3.47300000  
H -5.31200000 6.45500000 -3.79000000  
H -1.63300000 6.37200000 -6.88200000  
H -2.25700000 6.63400000 -9.58800000  
H -0.70100000 8.17000000 -8.39900000  
H 0.46000000 6.88500000 -8.21400000  
H -0.41100000 7.39000000 -11.04500000  
H 0.51600000 8.67900000 -10.30400000  
H 0.02900000 4.48100000 -8.01100000  
H 1.12300000 3.18000000 -10.25200000  
H 1.74500000 2.93600000 -7.74300000  
H 0.47400000 1.73200000 -7.63800000  
H 4.00200000 0.79700000 -9.37900000  
H 3.71300000 2.32800000 -8.70500000  
H -1.70600000 2.30900000 -8.35500000  
H -2.52100000 0.02000000 -9.83600000  
H -3.46200000 0.85800000 -7.58300000  
H -4.45000000 1.97200000 -8.50100000  
H -3.50300000 3.38200000 -10.13100000  
H -5.30500000 3.17100000 -12.23500000  
H -3.77500000 5.27600000 -10.89600000  
H -3.83600000 5.63600000 -12.60600000  
H -6.32700000 4.89800000 -11.00200000  
H -5.17300000 7.66800000 -11.56000000  
H -6.77600000 7.36100000 -10.91000000  
H -5.35500000 6.91800000 -9.98200000  
H -5.92700000 6.34900000 -13.66100000  
H -6.49200000 4.69600000 -13.48400000  
H -7.47800000 6.02500000 -12.90300000  
H -1.88100000 3.77200000 -12.36500000  
H -1.32200000 4.00400000 -15.04900000  
H 0.21600000 3.68000000 -12.80700000  
H 0.45200000 2.10300000 -13.52400000  
H 1.07700000 3.31600000 -15.70200000  
H 1.08700000 4.80700000 -14.76600000  
H 3.94800000 3.74500000 -12.78600000  
H 2.47100000 4.54900000 -12.58900000  
H -1.52000000 0.98100000 -13.29500000  
H -1.32100000 -0.77400000 -15.55200000  
H -2.49600000 -1.28900000 -12.80100000  
H -2.03100000 -2.53400000 -13.94300000  
H 0.29200000 -2.04400000 -13.73400000  
H 0.00300000 -0.45400000 -13.06200000  
H 0.64600000 -1.71900000 -11.18500000  
H -1.09600000 -1.64900000 -11.04700000  
H -1.35700000 -3.91500000 -11.46400000  
H -0.02900000 -3.97900000 -12.61300000  
H 0.92800000 -3.34900000 -10.04200000  
H 0.00400000 -4.77700000 -9.98800000  
H 1.32600000 -4.65800000 -11.05000000  
H -4.13700000 0.09600000 -13.59600000  
H -6.12100000 -1.33500000 -14.87200000  
H -6.04100000 1.20400000 -13.23500000  
H -7.56400000 0.81200000 -14.04300000  
H -6.43000000 -0.40600000 -11.91100000  
H -5.00400000 1.88900000 -15.70200000  
H -6.17500000 1.62200000 -18.42500000  
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H -7.35100000 3.24400000 -19.44000000  
H -9.31400000 3.84400000 -17.99500000  
H -8.60500000 5.42500000 -17.71600000  
H -8.59400000 5.68300000 -20.30600000  
H -9.64000000 4.26900000 -20.32700000  
H -11.01400000 5.56600000 -18.63400000  
H -10.15400000 6.92500000 -19.18000000  
H -11.09600000 6.02200000 -20.26800000  
H -4.12100000 0.93500000 -18.94100000  
H -1.79500000 2.71800000 -18.64200000  
H -1.63500000 0.24200000 -18.32200000  
H -3.34600000 -0.21000000 -20.28900000  
H -1.91400000 -0.23200000 -21.29700000  
H -2.06700000 -1.36000000 -19.96500000  
H 0.26100000 1.81200000 -19.44400000  
H 0.50400000 0.10300000 -19.14800000  
H 0.06900000 0.66100000 -20.75200000  
H -3.58400000 4.07800000 -19.95200000  
H -4.07300000 5.29900000 -21.86100000  
H -1.54100000 5.67200000 -21.50500000  
H -1.27400000 4.50900000 -22.79200000  
H -2.13600000 6.00300000 -23.12200000  
H -4.75800000 2.52900000 -21.86500000  
H -5.75400000 0.95200000 -23.22500000  
H -5.33600000 2.91100000 -25.55800000  
H -7.16300000 0.54700000 -25.05800000  
H -7.64600000 1.81200000 -26.17200000  
H -6.18100000 0.90200000 -26.46900000  
H -7.54800000 2.85200000 -23.45400000  
H -6.42700000 4.17200000 -23.74800000  
H -7.63900000 3.77200000 -24.94700000  
H -5.35400000 -0.56100000 -24.99000000  
H -2.64600000 -1.46600000 -25.02500000  
H -5.01400000 -2.26600000 -26.79700000  
H -3.48700000 -3.15800000 -26.69100000  
H -3.84200000 -3.55500000 -24.58700000

11. *trypsin inhibitor II (2eti)* [5]

N 10.34000000 0.13600000 -1.96700000  
 C 9.71100000 -1.19000000 -1.86600000  
 C 8.30300000 -1.08300000 -1.29900000  
 O 7.61200000 -0.08600000 -1.49300000  
 N 7.81300000 -2.11900000 -0.61500000  
 C 6.42100000 -2.25000000 -0.23200000  
 C 6.12300000 -3.66400000 0.26100000  
 S 4.72100000 -3.80900000 1.39600000  
 C 5.94900000 -1.19200000 0.75500000  
 O 5.01400000 -0.45300000 0.45800000  
 N 6.53200000 -1.10800000 1.95500000  
 C 6.22100000 -0.05700000 2.90000000  
 C 7.53400000 -2.01200000 2.48400000  
 C 6.85500000 -0.52800000 4.20400000  
 C 8.08300000 -1.28700000 3.71000000  
 C 6.78200000 1.26900000 2.40400000  
 O 7.49300000 1.31900000 1.40400000  
 N 6.51300000 2.34900000 3.14100000  
 C 6.90700000 3.73300000 2.96400000  
 C 8.42000000 3.91000000 2.86100000  
 C 9.26200000 3.27900000 3.96700000  
 C 8.87500000 3.81500000 5.34200000  
 N 7.83700000 2.98000000 5.94700000  
 C 7.44200000 3.14700000 7.21700000  
 N 6.63500000 2.26500000 7.82000000  
 N 7.86800000 4.21700000 7.90200000  
 C 6.07200000 4.34900000 1.85000000  
 O 5.91500000 3.75900000 0.78500000  
 N 5.42700000 5.48800000 2.11700000  
 C 4.12900000 5.80900000 1.55900000  
 C 3.24900000 6.55300000 2.55900000  
 C 2.67300000 5.58400000 3.58600000  
 C 3.87200000 7.76100000 3.25300000  
 C 2.82300000 8.68400000 3.86700000  
 C 4.19100000 6.49800000 0.20200000  
 O 4.34000000 7.71400000 0.10900000  
 N 4.02100000 5.70100000 -0.85600000  
 C 3.84200000 6.12500000 -2.22900000  
 C 5.10300000 6.77200000 -2.79600000  
 C 6.41500000 6.14700000 -2.33100000  
 C 6.41200000 4.62500000 -2.42700000  
 C 7.61400000 6.65000000 -3.13100000  
 C 3.28300000 5.01300000 -3.10500000  
 O 3.56900000 4.92000000 -4.29700000  
 N 2.44600000 4.14600000 -2.53200000  
 C 1.61800000 3.20700000 -3.26300000  
 C 2.10800000 1.76400000 -3.17700000  
 C 3.36500000 1.39100000 -3.95900000  
 S 5.00000000 1.81700000 -3.31100000  
 C 4.66900000 1.75800000 -1.53200000  
 C 0.28900000 3.32500000 -2.53200000  
 O 0.20200000 2.92100000 -1.37500000  
 N -0.67500000 4.01800000 -3.14100000  
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 C -1.92500000 6.14300000 -2.91300000  
 C -1.17700000 6.64900000 -4.14400000  
 C -1.95000000 6.63100000 -5.46000000  
 N -2.48400000 5.31000000 -5.79400000  
 C -2.91100000 4.92300000 -7.00400000  
 N -3.27500000 3.65800000 -7.25100000  
 N -2.95100000 5.78900000 -8.02400000  
 C -2.99900000 3.85800000 -2.66500000  
 O -3.47000000 3.77800000 -3.79800000  
 N -3.48600000 3.14100000 -1.64900000  
 C -4.42100000 2.08200000 -1.96700000  
 C -4.18200000 0.84800000 -1.10300000  
 S -5.08400000 0.96400000 0.46200000  
 C -5.87500000 2.49700000 -1.79600000  
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 N -6.74300000 1.75600000 -2.48600000  
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 C -9.15200000 1.39100000 -2.62100000  
 C -9.52200000 2.87200000 -2.62100000  
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 C -11.42500000 2.19400000 -4.13500000  
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 N -6.71800000 -1.06400000 -2.25300000  
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 C -9.07200000 -2.26600000 -5.57200000  
 O -8.60400000 -1.97000000 -6.66800000  
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 O -4.63800000 -6.74900000 -1.82200000  
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 O -2.08800000 -2.68700000 -7.47200000  
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 C 0.98600000 -2.15400000 -3.30800000  
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 C 1.62000000 -2.94800000 -5.55300000

O 1.02700000 -3.67100000 -6.35300000  
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C 5.26300000 -3.69700000 -5.61700000  
C 5.69000000 -2.88800000 -4.39500000  
C 7.05200000 -3.35500000 -3.88800000  
C 5.77600000 -1.39600000 -4.70800000  
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C 3.10200000 -8.97300000 -5.02700000  
C 4.36200000 -7.76900000 -3.15500000  
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C 2.79800000 -4.52500000 -0.73700000  
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C -3.45900000 -1.42900000 0.78100000  
S -5.22200000 -1.02700000 0.86500000  
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O -4.52400000 -3.02900000 3.58800000  
N -3.71700000 -0.92900000 3.80100000  
C -4.63100000 -0.56800000 4.86400000  
C -4.75400000 0.92500000 5.13300000  
O -5.79300000 1.50600000 4.82700000  
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C -3.80200000 2.79800000 6.47800000  
C -2.52800000 0.85000000 6.10300000  
C -2.32800000 3.10800000 6.72800000  
C -1.79900000 1.73000000 7.11300000  
C -4.60000000 4.00100000 5.99700000  
O -5.82000000 3.95000000 5.84400000  
N -3.94000000 5.14700000 5.81500000  
C -4.51300000 6.37200000 5.29400000  
C -3.84500000 7.63100000 5.83900000  
C -4.57700000 8.89900000 5.41900000  
O -5.76700000 8.86900000 5.11600000  
N -3.93000000 10.06700000 5.45300000  
C -4.45500000 6.25100000 3.77800000  
O -3.91000000 7.10200000 3.07800000  
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C -0.12300000 5.59800000 1.72000000  
C -0.47900000 6.77700000 2.38200000  
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C 0.51400000 6.90500000 -0.22100000  
C 0.00100000 8.05700000 0.38400000  
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O -2.06900000 1.36600000 2.85100000  
N -0.21400000 1.41100000 1.52300000  
C 0.28600000 0.05400000 1.60500000  
C 0.75700000 -0.36500000 0.21500000  
S -0.04800000 -1.86100000 -0.40900000  
C 1.43000000 -0.07100000 2.59900000  
O 2.23900000 0.84200000 2.75300000  
N 1.49600000 -1.24600000 3.22700000  
C 2.59800000 -1.68400000 4.06100000  
C 2.70900000 -0.90200000 5.36300000  
O 1.64600000 -0.51400000 5.89900000  
O 3.84200000 -0.72700000 5.86000000  
H 10.28800000 0.52100000 -1.03400000  
H 11.31700000 0.06100000 -2.21100000  
H 9.82600000 0.72800000 -2.60200000  
H 9.67500000 -1.66100000 -2.84800000  
H 10.37800000 -1.75300000 -1.21200000  
H 8.39000000 -2.94800000 -0.59100000  
H 5.85200000 -2.10800000 -1.15100000  
H 6.99700000 -4.05600000 0.78100000  
H 5.95300000 -4.33100000 -0.61500000  
H 5.14200000 0.03700000 3.02200000  
H 8.31900000 -2.24700000 1.76600000  
H 7.04500000 -2.93400000 2.79800000  
H 7.12700000 0.28200000 4.88100000  
H 6.16900000 -1.20300000 4.71700000  
H 8.81500000 -0.53600000 3.41400000  
H 8.53600000 -1.98500000 4.41600000  
H 5.84100000 2.22300000 3.88200000  
H 6.57100000 4.21200000 3.88500000  
H 8.77400000 3.49000000 1.91900000  
H 8.65700000 4.97200000 2.91400000  
H 9.17800000 2.19400000 3.92700000  
H 10.30700000 3.54200000 3.79600000  
H 9.75800000 3.82200000 5.98000000  
H 8.50100000 4.83700000 5.27800000  
H 7.34700000 2.30500000 5.38000000  
H 6.43800000 1.36600000 7.40600000  
H 6.34200000 2.38800000 8.77900000  
H 8.43900000 4.93300000 7.47900000  
H 7.57200000 4.36000000 8.85700000  
H 5.77700000 6.11200000 2.82900000  
H 3.62400000 4.86400000 1.35500000  
H 2.40300000 6.92600000 1.98000000  
H 2.37700000 4.65500000 3.09800000  
H 3.38200000 5.33500000 4.37500000

|                |             |             |                |             |             |
|----------------|-------------|-------------|----------------|-------------|-------------|
| H 1.78600000   | 6.03900000  | 4.03000000  | H -6.96100000  | -3.09800000 | -4.40800000 |
| H 4.52800000   | 7.44900000  | 4.06700000  | H -8.30000000  | -3.67400000 | -3.41100000 |
| H 4.42100000   | 8.39000000  | 2.55500000  | H -9.27600000  | -1.35000000 | -3.63800000 |
| H 2.16400000   | 9.06000000  | 3.08500000  | H -7.82900000  | -0.88000000 | -4.57200000 |
| H 2.24700000   | 8.16800000  | 4.63300000  | H -10.51700000 | -3.50600000 | -6.27000000 |
| H 3.35800000   | 9.51500000  | 4.32300000  | H -10.53900000 | -3.29900000 | -4.55900000 |
| H 3.97300000   | 4.71100000  | -0.65400000 | H -4.31400000  | -2.04200000 | -1.69200000 |
| H 3.03900000   | 6.86400000  | -2.23000000 | H -2.36800000  | -3.06600000 | -1.92200000 |
| H 5.04300000   | 6.78800000  | -3.88400000 | H -1.97500000  | -5.18800000 | -1.45700000 |
| H 5.10200000   | 7.82200000  | -2.50500000 | H -3.51900000  | -4.92900000 | -0.61000000 |
| H 6.59400000   | 6.42800000  | -1.29200000 | H -4.76900000  | -4.03200000 | -4.34000000 |
| H 6.09400000   | 4.34200000  | -3.43000000 | H -3.04600000  | -4.83900000 | -6.40100000 |
| H 7.41200000   | 4.23500000  | -2.23600000 | H -5.63800000  | -3.21300000 | -6.51100000 |
| H 5.74500000   | 4.18100000  | -1.68700000 | H -4.96500000  | -4.15700000 | -7.83500000 |
| H 7.69500000   | 7.73000000  | -3.02600000 | H -6.37400000  | -5.46700000 | -6.85900000 |
| H 8.53400000   | 6.19700000  | -2.75700000 | H -3.96100000  | -1.71500000 | -5.17600000 |
| H 7.49400000   | 6.37400000  | -4.17800000 | H -2.62800000  | 0.31900000  | -6.65100000 |
| H 2.17600000   | 4.31100000  | -1.57200000 | H -3.27600000  | -0.23100000 | -3.80900000 |
| H 1.52100000   | 3.48600000  | -4.31300000 | H -2.65000000  | 1.30200000  | -4.45600000 |
| H 2.18400000   | 1.46500000  | -2.13100000 | H -1.10000000  | -2.41800000 | -4.99800000 |
| H 1.30400000   | 1.17500000  | -3.61500000 | H 1.45000000   | -0.91700000 | -4.98500000 |
| H 3.35800000   | 0.30100000  | -4.00600000 | H 0.92000000   | -3.23000000 | -3.14800000 |
| H 3.31900000   | 1.77400000  | -4.97900000 | H 1.91600000   | -1.79100000 | -2.87100000 |
| H 4.13000000   | 0.83300000  | -1.32200000 | H 3.25700000   | -2.51500000 | -4.48900000 |
| H 5.60600000   | 1.77700000  | -0.97800000 | H 3.59900000   | -4.47300000 | -6.68200000 |
| H 4.07300000   | 2.63400000  | -1.27700000 | H 5.86900000   | -4.59900000 | -5.69000000 |
| H -0.72800000  | 3.91000000  | -4.14400000 | H 5.47100000   | -3.11700000 | -6.51700000 |
| H -1.52400000  | 4.74700000  | -1.38300000 | H 4.99200000   | -2.99300000 | -3.56500000 |
| H -2.98700000  | 6.36200000  | -3.02000000 | H 7.69800000   | -3.61500000 | -4.72700000 |
| H -1.57700000  | 6.74400000  | -2.07300000 | H 7.51900000   | -2.55900000 | -3.30900000 |
| H -1.01300000  | 7.71600000  | -3.99600000 | H 6.92300000   | -4.23200000 | -3.25300000 |
| H -0.19900000  | 6.18800000  | -4.27400000 | H 4.88500000   | -1.05000000 | -5.23400000 |
| H -2.75300000  | 7.36700000  | -5.41000000 | H 5.86200000   | -0.87400000 | -3.75500000 |
| H -1.24300000  | 6.94700000  | -6.22700000 | H 6.65000000   | -1.17100000 | -5.31800000 |
| H -2.39700000  | 4.58300000  | -5.09900000 | H 3.71300000   | -6.69900000 | -6.11900000 |
| H -3.61500000  | 2.99300000  | -6.57100000 | H 2.37500000   | -7.46500000 | -3.77000000 |
| H -3.09800000  | 3.28000000  | -8.17100000 | H 3.80500000   | -9.13700000 | -5.84400000 |
| H -2.65400000  | 6.75200000  | -7.95600000 | H 3.16000000   | -9.83800000 | -4.36600000 |
| H -3.32900000  | 5.44900000  | -8.89700000 | H 2.08800000   | -8.95300000 | -5.42300000 |
| H -3.20000000  | 3.28200000  | -0.69100000 | H 3.27600000   | -9.25800000 | -2.35900000 |
| H -4.22400000  | 1.72600000  | -2.97900000 | H 4.39400000   | -9.54600000 | -0.35100000 |
| H -4.58500000  | 0.00900000  | -1.66900000 | H 5.80800000   | -8.74100000 | -1.04900000 |
| H -3.11800000  | 0.66200000  | -0.95400000 | H 2.50600000   | -7.46700000 | -1.14100000 |
| H -6.38800000  | 1.26400000  | -3.29500000 | H 2.82500000   | -5.70600000 | 1.08000000  |
| H -7.97700000  | 1.50100000  | -0.82700000 | H 3.75700000   | -4.65700000 | -1.23500000 |
| H -9.02700000  | 1.06500000  | -3.65400000 | H 2.03200000   | -4.25600000 | -1.46300000 |
| H -9.96300000  | 0.82500000  | -2.16100000 | H 0.88800000   | -5.08600000 | 1.99300000  |
| H -9.31900000  | 3.29600000  | -1.63600000 | H -1.64100000  | -5.80700000 | 0.64400000  |
| H -8.92500000  | 3.39800000  | -3.36800000 | H -2.58500000  | -6.28100000 | 2.83500000  |
| H -11.58300000 | 2.80600000  | -2.05100000 | H -1.86600000  | -7.94700000 | 1.05400000  |
| H -11.17800000 | 4.09800000  | -3.17400000 | H -0.42300000  | -8.24600000 | 2.04500000  |
| H -10.86400000 | 2.48300000  | -5.02100000 | H -2.05200000  | -8.64500000 | 2.66100000  |
| H -11.29300000 | 1.12600000  | -3.96300000 | H -0.73100000  | -5.37900000 | 4.28900000  |
| H -13.12100000 | 3.33900000  | -4.33400000 | H -1.29900000  | -6.97500000 | 4.74700000  |
| H -13.14200000 | 2.02600000  | -5.32100000 | H 0.21200000   | -6.83500000 | 3.87100000  |
| H -13.40400000 | 1.87800000  | -3.71700000 | H -3.24900000  | -4.15700000 | 1.08800000  |
| H -6.14300000  | -0.56400000 | -2.91400000 | H -2.01200000  | -1.72000000 | 2.22000000  |
| H -7.26000000  | -2.90400000 | -1.45700000 | H -2.92700000  | -0.48100000 | 0.86900000  |

H -3.21700000 -1.85000000 -0.19400000  
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 H -2.22100000 3.85500000 7.51300000  
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 H -5.57400000 6.44000000 5.53700000  
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 H -2.79800000 7.70300000 5.54700000  
 H -4.46000000 10.90200000 5.24700000  
 H -3.00000000 10.14200000 5.83700000  
 H -5.33500000 4.44000000 3.93300000  
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 H -5.50400000 5.59600000 1.32800000  
 H -3.17300000 3.32500000 2.90700000  
 H -1.34700000 3.48700000 0.67700000  
 H -0.54500000 4.39700000 3.45700000  
 H 0.60700000 3.71100000 2.33800000  
 H -0.63900000 6.78300000 3.45000000  
 H 0.76300000 4.77800000 -0.07100000  
 H -0.84700000 8.87300000 2.20600000  
 H 1.04700000 6.98900000 -1.15600000  
 H 0.21800000 9.01300000 -0.06800000  
 H 0.29600000 2.04000000 0.92100000  
 H -0.52300000 -0.59600000 1.93400000  
 H 0.48100000 0.39700000 -0.51200000  
 H 1.83800000 -0.49700000 0.18500000  
 H 0.75500000 -1.88300000 2.97000000  
 H 2.46600000 -2.74300000 4.28400000  
 H 3.53200000 -1.57200000 3.51200000

TABLE I: Radiuses of all elements in our calculations. ( $\text{\AA}$ )

| Elem. | Rad. | Elem. | Rad. | Elem. | Rad. | Elem. | Rad. | Elem. | Rad. |
|-------|------|-------|------|-------|------|-------|------|-------|------|
| H     | 0.30 | He    | 1.16 | Li    | 1.23 | Be    | 0.89 | B     | 0.88 |
| C     | 0.77 | N     | 0.70 | O     | 0.66 | F     | 0.58 | Ne    | 0.55 |
| Na    | 1.40 | Mg    | 1.36 | Al    | 1.25 | Si    | 1.17 | P     | 1.10 |
| S     | 1.11 | Cl    | 0.99 | Ar    | 1.58 | K     | 2.03 | Ca    | 1.74 |
| Sc    | 1.44 | Ti    | 1.32 | V     | 1.20 | Cr    | 1.13 | Mn    | 1.17 |
| Fe    | 1.16 | Co    | 1.16 | Ni    | 1.15 | Cu    | 1.17 | Zn    | 1.25 |
| Ga    | 1.25 | Ge    | 1.22 | As    | 1.21 | Se    | 1.17 | Br    | 1.14 |
| Kr    | 1.89 | Rb    | 2.25 | Sr    | 1.92 | Y     | 1.62 | Zr    | 1.45 |
| Nb    | 1.34 | Mo    | 1.29 | Tc    | 1.23 | Ru    | 1.24 | Rh    | 1.25 |
| Pd    | 1.28 | Ag    | 1.34 | Cd    | 1.41 | In    | 1.50 | Sn    | 1.40 |
| Sb    | 1.41 | Te    | 1.37 | I     | 1.33 | Xe    | 2.09 | Cs    | 2.35 |
| Ba    | 1.98 | La    | 1.69 | Ce    | 1.65 | Pr    | 1.65 | Nd    | 1.64 |
| Pm    | 1.64 | Sm    | 1.66 | Eu    | 1.85 | Gd    | 1.61 | Tb    | 1.59 |
| Dy    | 1.59 | Ho    | 1.58 | Er    | 1.57 | Tm    | 1.56 | Yb    | 1.70 |
| Lu    | 1.56 | Hf    | 1.44 | Ta    | 1.34 | W     | 1.30 | Re    | 1.28 |
| Os    | 1.26 | Ir    | 1.26 | Pt    | 1.29 | Au    | 1.34 | Hg    | 1.44 |
| Tl    | 1.55 | Pb    | 1.54 | Bi    | 1.52 | Po    | 1.53 | At    | 1.52 |
| Rn    | 1.53 | Fr    | 2.45 | Ra    | 2.02 | Ac    | 1.70 | Th    | 1.63 |
| Pa    | 1.46 | U     | 1.40 | Np    | 1.36 | Pu    | 1.25 | Am    | 1.57 |
| Cm    | 1.58 | Bk    | 1.54 | Cf    | 1.53 | Es    | 1.84 | Fm    | 1.61 |
| Md    | 1.50 | No    | 1.49 | Lr    | 1.38 | Rf    | 1.36 | Db    | 1.26 |
| Sg    | 1.20 | Bh    | 1.16 | Hs    | 1.14 | Mt    | 1.06 |       |      |

## II. COMPLEMENTARY DETAILS

### A. Radius of element

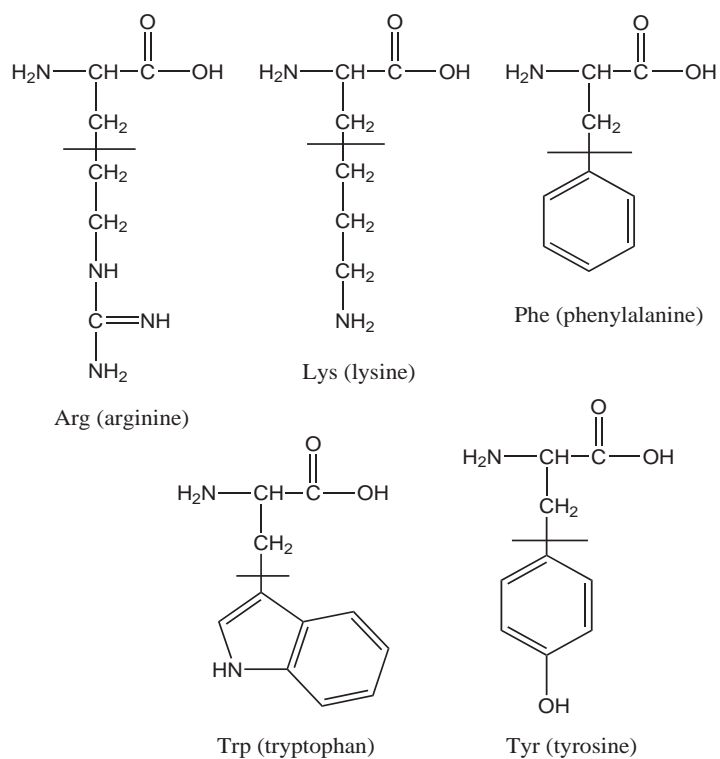


FIG. 1: Fragmentation scheme for five residues

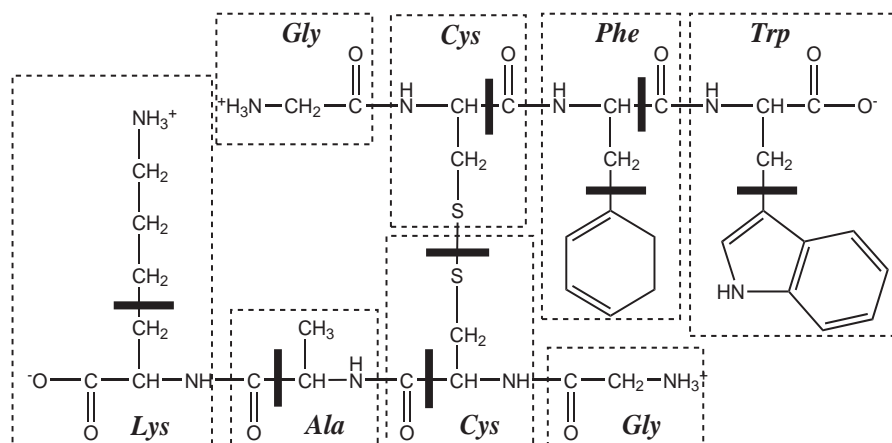


FIG. 2: Illustration of fragmentation for a protein

### B. Fragmentation for proteins

C-C bond between  $\alpha$ -carbon and the carbonyl group in the central residues, the S-S bond between two residues, and the C-C bond between  $\beta$ - and  $\gamma$ -carbons in five residues with large side chains (Arg, Lys, Phe, Trp, Tyr). See FIG.1-2



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