

GARN User Manual

GARN is a JAVA application
To use GARN, you need:

JAVA (version 1.7)
JAVA3D if you need visualization

To create a GARN file from a PDB file (from a PDB file):

java -jar ./GARN.jar PDBTOGARN <Name of molecule> <RNA Sequence> <Secondary Structure> <Location of the PDB file>

Example: java -jar ./GARN.jar PDBTOGARN 1E8O
GGGCCGGGCGCGGUGGCGCGCGCCUGUAGUCCAGCUACUCGGGAGGCUC '((((((((((((([.]))))))))....
(((.[.].).))))))' ./1E8O.pdb

Output one file : <Name of molecule>_PDB_0.csv

To compute the sampling space:

java -jar ./GARN.jar GAME <Name of molecule> <RNA Sequence> <Secondary Structure> <'Number of solutions>

Example: java -jar ./GARN.jar GAME 1E8O
GGGCCGGGCGCGGUGGCGCGCGCCUGUAGUCCAGCUACUCGGGAGGCUC '((((((((((((([.]))))))))....
(((.[.].).))))))' 20

Output 20 files : <Name of molecule>_GARN_0.csv, <Name of molecule>_GARN_1.csv, ..., <Name of molecule>_GARN_19.csv

To compute the RMSD between two GARN files:

java -jar ./GARN.jar RMSD <GARN file of molecule 1> <GARN file of molecule 2>

Example: java -jar ./GARN.jar RMSD ./1E8O_GARN_0.csv ./1E8O_PDB_0.csv

To view solutions:

java -jar ./GARN.jar VISU <Name of molecule> <RNA Sequence> <Secondary Structure> <GARN file> [other files (max 10),...]

Example: java -jar ./GARN.jar VISU 1E8O
GGGCCGGGCGCGGUGGCGCGCGCCUGUAGUCCAGCUACUCGGGAGGCUC '((((((((((((([.]))))))))....
(((.[.].).))))))' ./1E8O_PDB_0.csv ./1E8O_GARN_0.csv ./1E8O_GARN_1.csv ./1E8O_GARN_2.csv

To compute a file TotalScore/RMSD:

java -jar ./GARN.jar SCORE <Name of molecule> <RNA Sequence> <Secondary Structure> <GARN file> [other files (max 10),...]

Example: java -jar ./GARN.jar SCORE 1E8O
GGGCCGGGCGCGGUGGCGCGCGCCUGUAGUCCAGCUACUCGGGAGGCUC '((((((((((((([.]))))))))....
(((.[.].).))))))' ./1E8O_PDB_0.csv ./1E8O_GARN_0.csv ./1E8O_GARN_1.csv ./1E8O_GARN_2.csv

Possible errors:

If you have any trouble, please contact me at: melanie.boudard(at)lri.fr