

PATTERN RECOGNITION BY THE MOLECULAR MACHINE™

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The Molecular Machine™ is a self -organizing molecule which classifies data

Method

The goal of the Molecular Machine is to construct a molecule (polymer,protein,small organic molecule) which classifies the input data into classes

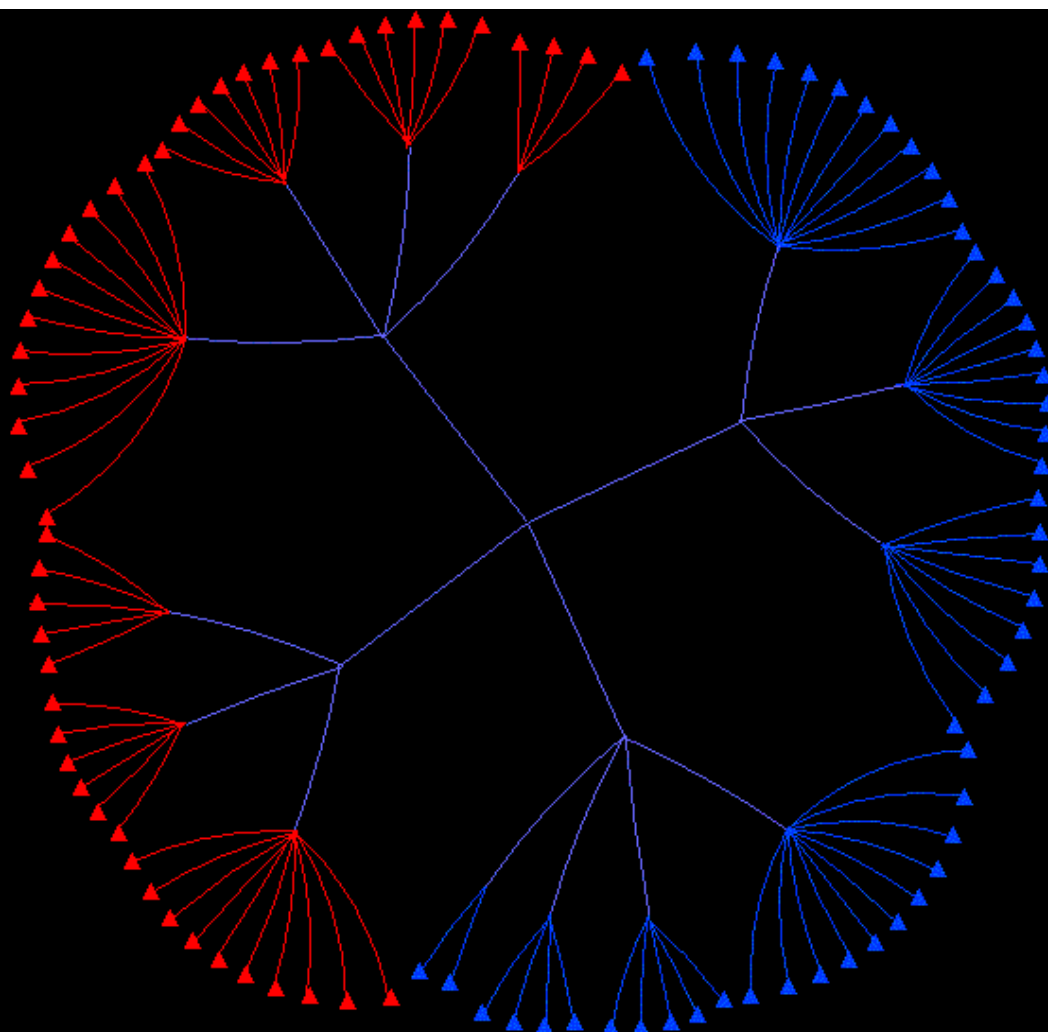
and describes each class within the dataset.

Each atom of the molecule is the center of a cluster

Each bond define the type and the depth of the cluster.

The Molecular Machine is an unsupervised and adaptative method

Example 1 : The Samu set



INFO

DESCRIPTEURS

```

Frcar
Incar
Insys
Prdia
Papul
Pvent

```

■	y < 0.11	H
■	y < 0.22	H
■	y < 0.33	H
■	y < 0.44	H
■	y < 0.56	H
■	y < 0.67	H
■	y < 0.78	H
■	y < 0.89	H
■	y < 1.00	H

MOLECULES

```

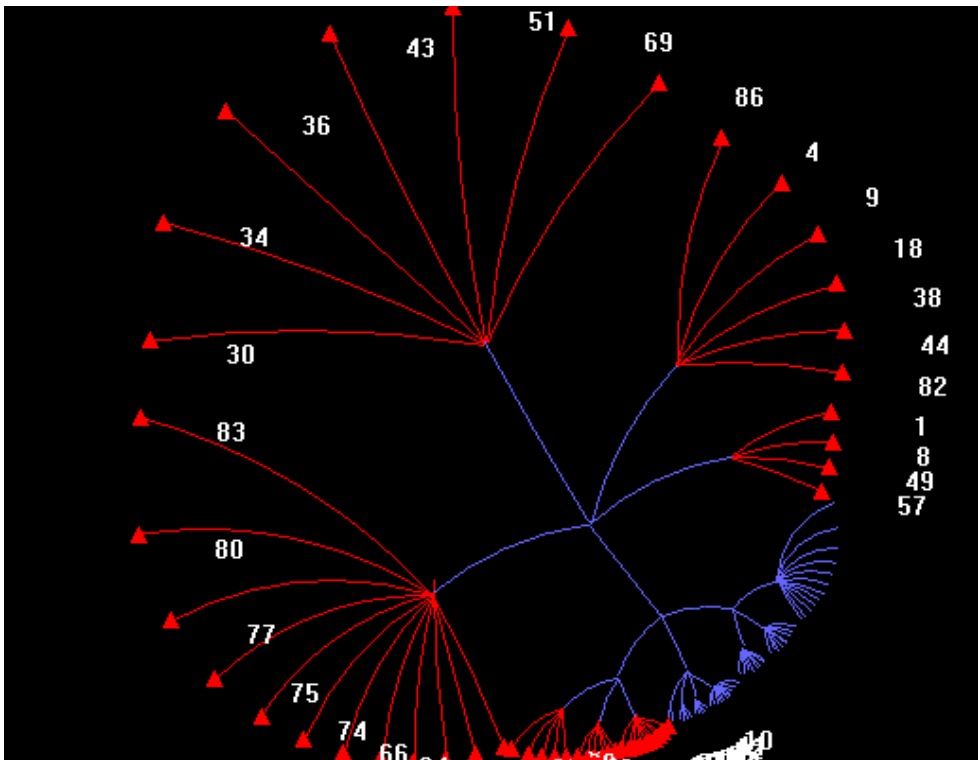
1
2
3
4
5

```

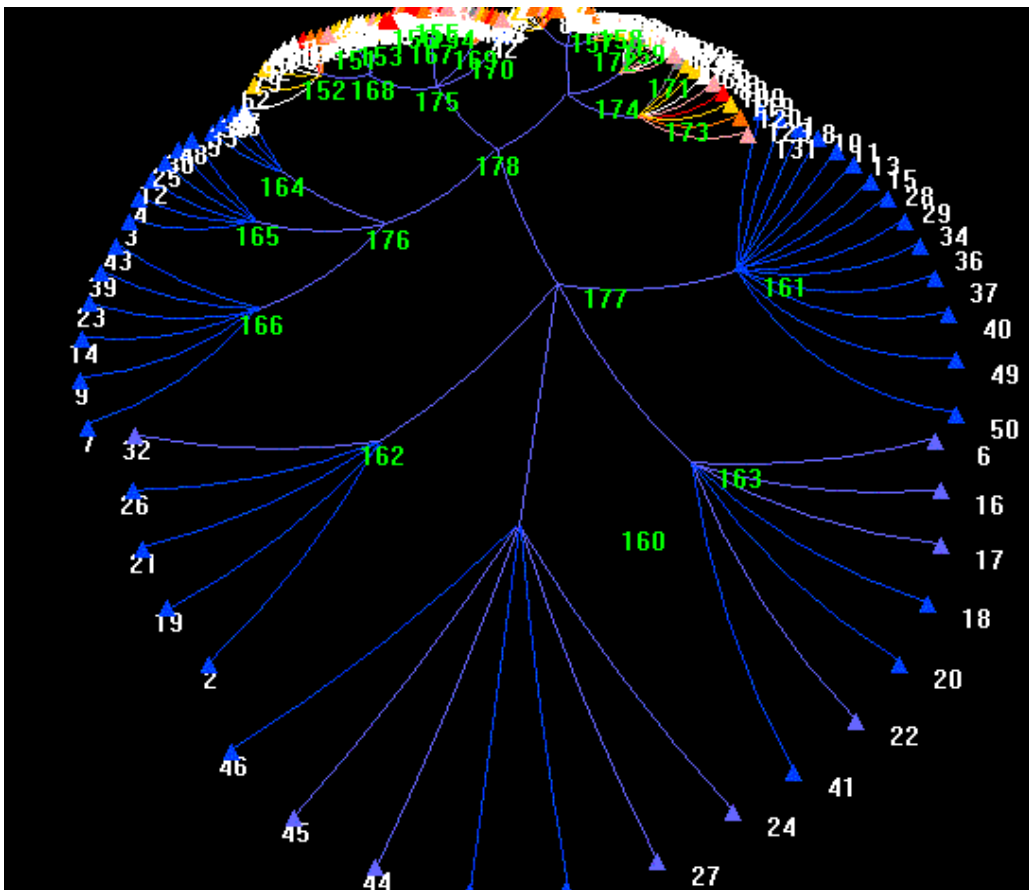
RECENTRER

ANNULER

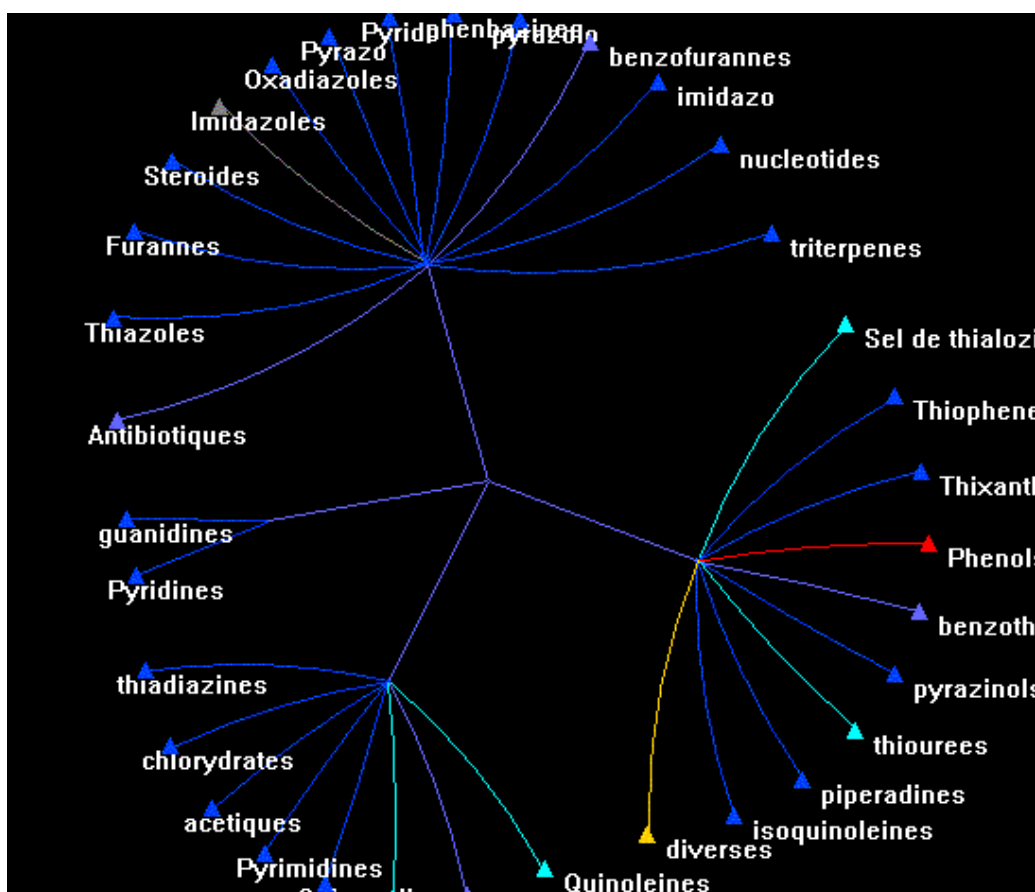
The Molecular Machine finds 2 classes(in blue and in red).
....Dragging the first class



Example 2 : The Iris set



Example 3 : The protozoaire set



last revision; 2005/10/22 Cadcom