

*Version 1.2.0, by Giorgio Bianchini*

**Description:** Computes the coordinates for a circular tree.

**Module type:** Coordinate

**Module ID:** 92aac276-3af7-4506-a263-7220e0df5797

This module computes coordinates for the nodes of the tree in a "circular" style. The root node of the tree is placed at the center of the circle, and the tips are placed in rings whose diameter depends on the total distance from the root.

## Parameters

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### Outer radius

**Control type:** Number spin box

**Default value:** 200

**Range:**  $[0, +\infty)$

This parameter determines the radius of the ring that contains the tips with the highest distance from the root node (and, thus, the total diameter of the tree).

### Inner radius

**Control type:** Number spin box

**Default value:** 20

**Range:**  $[0, +\infty)$

This parameter determines the radius of the inner circle on which the root node is placed. If the radius is 0, the root node is placed exactly at the center of the tree; otherwise, it is placed on a ring with the specified radius.

### Rotation

**Control type:** Slider

**Default value:**  $0^\circ$

**Range:**  $[0^\circ, 360^\circ]$

This parameter determines the orientation of the labels in the tree. Change this value to rotate all of the tips by the specified amount.

## Fixed rotations

**Control type:** Buttons

**Buttons:**

- 0°
- 90°
- 180°
- 270°

These buttons can be used to set predefined values for the [Rotation](#) of the tree.

## Sweep angle

**Control type:** Slider

**Default value:** 360°

**Range:** [ 1°, 360° ]

The angular width of the tree plot.

## Coordinate shift

**Control type:** Drop-down list

**Default value:** None

**Possible values:**

- None
- Relative
- Absolute

This parameter determines the kind of coordinate shift that is applied. If the value is `None`, no coordinate shift is applied. If the value is `Relative`, the coordinates for each point are shifted by the amount specified by the selected [X](#) and [Y](#) attributes, relative to their default position. If the value is `Absolute`, the coordinates are set to the value specified by the selected [X](#) and [Y](#) attributes, regardless of their default position.

## X shift

**Control type:** Check box

**Default value:** Unchecked

If this check box is checked, the X coordinates of the tree nodes are shifted. Otherwise, they are left as is.

## X attribute

**Control type:** Attribute selector

**Default value:** Length

This parameter determines the attribute used to shift the X coordinate of the points.

## Y shift

**Control type:** Check box

**Default value:** Unchecked

If this check box is checked, the Y coordinates of the tree nodes are shifted. Otherwise, they are left as is.

## Y attribute

**Control type:** Attribute selector

**Default value:** Length

This parameter determines the attribute used to shift the Y coordinate of the points.

## Custom script

**Control type:** Source code

**Default value:**

```
using PhyloTree;
using System.Collections.Generic;
using TreeViewer;
using VectSharp;

namespace a88e1b4922cd2498990808baccbac5bde
```

```
{
    //Do not change class name
    public static class CustomCoordinates
    {
        //Do not change method signature
        public static void GetCoordinates(TreeNode tree, ref
Dictionary<string, Point> coordinates)
        {
            //TODO: change the coordinate values contained in
            the coordinates dictionary
        }
    }
}
```

This script can be used to modify the coordinate values.

## Apply

**Control type:** Button

This button applies the changes to the values of the other parameters and triggers a redraw of the tree.

## Further information

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Here is an example of a tree drawn using circular coordinates (and with the appropriate shape for the *Branches*):

