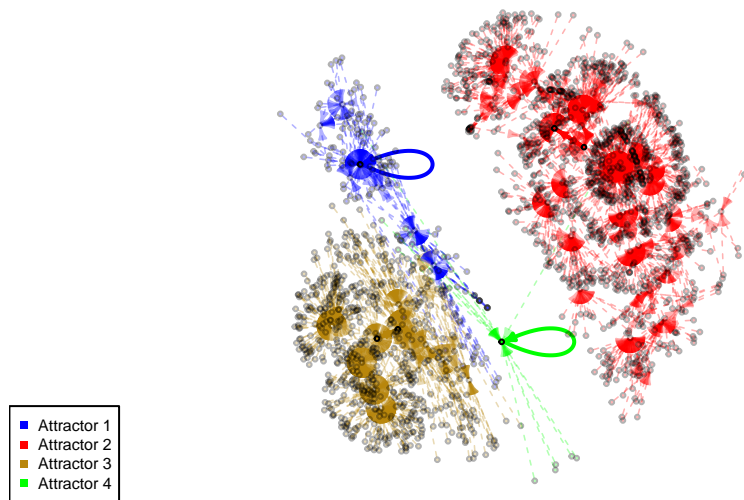


# Analyzing a hematopoietic genetic network

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```
attr <- getAttractors(HSC)
plotStateGraph(attr)
```



```
print(attr)
```

```
## Attractor 1 is a simple attractor consisting of 1 state(s) and has a basin of 134 state(s):
##
## |--<-----|
## V          |
## 0000000000  |
## V          |
## |-->-----|
##
```

```

##
## Genes are encoded in the following order: Erg Eto2 Fli1 Gata1 Gata2 Hhex Pu1 Runx1 Scl Smad6 Zfp1
##
## Attractor 2 is a simple attractor consisting of 1 state(s) and has a basin of 16 state(s):
##
## |--<-----|
## V          |
## 00010000100 |
## V          |
## |-->-----|
##
##
## Genes are encoded in the following order: Erg Eto2 Fli1 Gata1 Gata2 Hhex Pu1 Runx1 Scl Smad6 Zfp1
##
## Attractor 3 is a simple attractor consisting of 2 state(s) and has a basin of 1258 state(s):
##
## |--<-----|
## V          |
## 00101111110 |
## 11100110111 |
## V          |
## |-->-----|
##
##
## Genes are encoded in the following order: Erg Eto2 Fli1 Gata1 Gata2 Hhex Pu1 Runx1 Scl Smad6 Zfp1
##
## Attractor 4 is a simple attractor consisting of 2 state(s) and has a basin of 640 state(s):
##
## |--<-----|
## V          |
## 00101110110 |
## 11100111111 |
## V          |
## |-->-----|
##
##
## Genes are encoded in the following order: Erg Eto2 Fli1 Gata1 Gata2 Hhex Pu1 Runx1 Scl Smad6 Zfp1

```

Attractor 4 is the one that is closest to the experimental HSPC expression profile 1110111111 - 1110011111(Attractor 4)

```

attr <- getAttractors(HSC, type="asynchronous",
method="random", startStates=500)
print(attr)

```

```

## Attractor 1 is a simple attractor consisting of 1 state(s):
##
## |--<-----|
## V          |
## 00000000000 |
## V          |
## |-->-----|
##
##

```

```

##
## Genes are encoded in the following order: Erg Eto2 Fli1 Gata1 Gata2 Hhex Pu1 Runx1 Scl Smad6 Zfp1
##
## Attractor 2 is a simple attractor consisting of 1 state(s):
##
## |--<-----|
## V          |
## 00010000100 |
## V          |
## |-->-----|
##
##
## Genes are encoded in the following order: Erg Eto2 Fli1 Gata1 Gata2 Hhex Pu1 Runx1 Scl Smad6 Zfp1
##
## Attractor 3 is a complex/loose attractor consisting of 32 state(s) and 112 transition(s):
##
## 11101111111 => 11101110111
## 11101111111 => 11100111111
## 11101111111 => 01101111111
## 01101111111 => 01101110111
## 01101111111 => 01100111111
## 10101111111 => 10101110111
## 10101111111 => 10100111111
## 10101111111 => 11101111111
## 00101111111 => 00101110111
## 00101111111 => 00100111111
## 00101111111 => 01101111111
## 00101111111 => 10101111111
## 11100111111 => 11100111110
## 11100111111 => 11100110111
## 11100111111 => 11101111111
## 11100111111 => 10100111111
## 11100111111 => 01100111111
## 01100111111 => 01100111110
## 01100111111 => 01100110111
## 01100111111 => 01101111111
## 01100111111 => 00100111111
## 10100111111 => 10100111110
## 10100111111 => 10100110111
## 10100111111 => 10101111111
## 00100111111 => 00100111110
## 00100111111 => 00100110111
## 00100111111 => 00101111111
## 00100111111 => 10100111111
## 11101110111 => 11101111111
## 11101110111 => 11100110111
## 11101110111 => 01101110111
## 01101110111 => 01101111111
## 01101110111 => 01100110111
## 10101110111 => 10101111111
## 10101110111 => 10100110111
## 10101110111 => 11101110111
## 00101110111 => 00101111111
## 00101110111 => 00100110111

```

```

## 00101110111 => 01101110111
## 00101110111 => 10101110111
## 11100110111 => 11100110110
## 11100110111 => 11100111111
## 11100110111 => 11101110111
## 11100110111 => 10100110111
## 11100110111 => 01100110111
## 01100110111 => 01100110110
## 01100110111 => 01100111111
## 01100110111 => 01101110111
## 01100110111 => 00100110111
## 10100110111 => 10100110110
## 10100110111 => 10100111111
## 10100110111 => 10101110111
## 00100110111 => 00100110110
## 00100110111 => 00100111111
## 00100110111 => 00101110111
## 00100110111 => 10100110111
## 11101111110 => 11101111111
## 11101111110 => 11101110110
## 11101111110 => 11100111110
## 11101111110 => 01101111110
## 01101111110 => 01101111111
## 01101111110 => 01101110110
## 01101111110 => 01100111110
## 10101111110 => 10101111111
## 10101111110 => 10101110110
## 10101111110 => 10100111110
## 10101111110 => 11101111110
## 00101111110 => 00101111111
## 00101111110 => 00101110110
## 00101111110 => 00100111110
## 00101111110 => 01101111110
## 00101111110 => 10101111110
## 11100111110 => 11100110110
## 11100111110 => 11101111110
## 11100111110 => 10100111110
## 11100111110 => 01100111110
## 01100111110 => 01100110110
## 01100111110 => 01101111110
## 01100111110 => 00100111110
## 10100111110 => 10100110110
## 10100111110 => 10101111110
## 00100111110 => 00100110110
## 00100111110 => 00101111110
## 00100111110 => 10100111110
## 11101110110 => 11101110111
## 11101110110 => 11101111110
## 11101110110 => 11100110110
## 11101110110 => 01101110110
## 01101110110 => 01101110111
## 01101110110 => 01101111110
## 01101110110 => 01100110110
## 10101110110 => 10101110111

```

```

## 10101110110 => 10101111110
## 10101110110 => 10100110110
## 10101110110 => 11101110110
## 00101110110 => 00101110111
## 00101110110 => 00101111110
## 00101110110 => 00100110110
## 00101110110 => 01101110110
## 00101110110 => 10101110110
## 11100110110 => 11100111110
## 11100110110 => 11101110110
## 11100110110 => 10100110110
## 11100110110 => 01100110110
## 01100110110 => 01100111110
## 01100110110 => 01101110110
## 01100110110 => 00100110110
## 10100110110 => 10100111110
## 10100110110 => 10101110110
## 00100110110 => 00100111110
## 00100110110 => 00101110110
## 00100110110 => 10100110110
##
## Genes are encoded in the following order: Erg Eto2 Fli1 Gata1 Gata2 Hhex Pu1 Runx1 Scl Smad6 Zfp1

```

Attractor 3 appears to be an asynchronous attractor because it is a complex/loose attractor