realnetdata

Etienne Côme

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```
library(greed)
library(future)
plan(multisession)
library(ggplot2)
```

```
## Registered S3 methods overwritten by 'ggplot2':
##   method         from
##   [.quosures     rlang
##   c.quosures     rlang
##   print.quosures rlang
```

```
library(ggpubr)
```

```
## Loading required package: magrittr
```

```
library(greed)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(Matrix)
```

```
data("Blogs")
fit_blogs = greed(Blogs$X,model=new("dcsbm"),alg=new("hybrid",pop_size=50))
data("Books")
fit_books = greed(Books$X,model=new("dcsbm"),alg=new("hybrid",pop_size=50))
data("Football")
fit_foot = greed(Football$X,model=new("dcsbm"),alg=new("hybrid",pop_size=50))
data("Jazz")
fit_jazz = greed(Jazz,model=new("dcsbm"),alg=new("hybrid",pop_size=50))
```

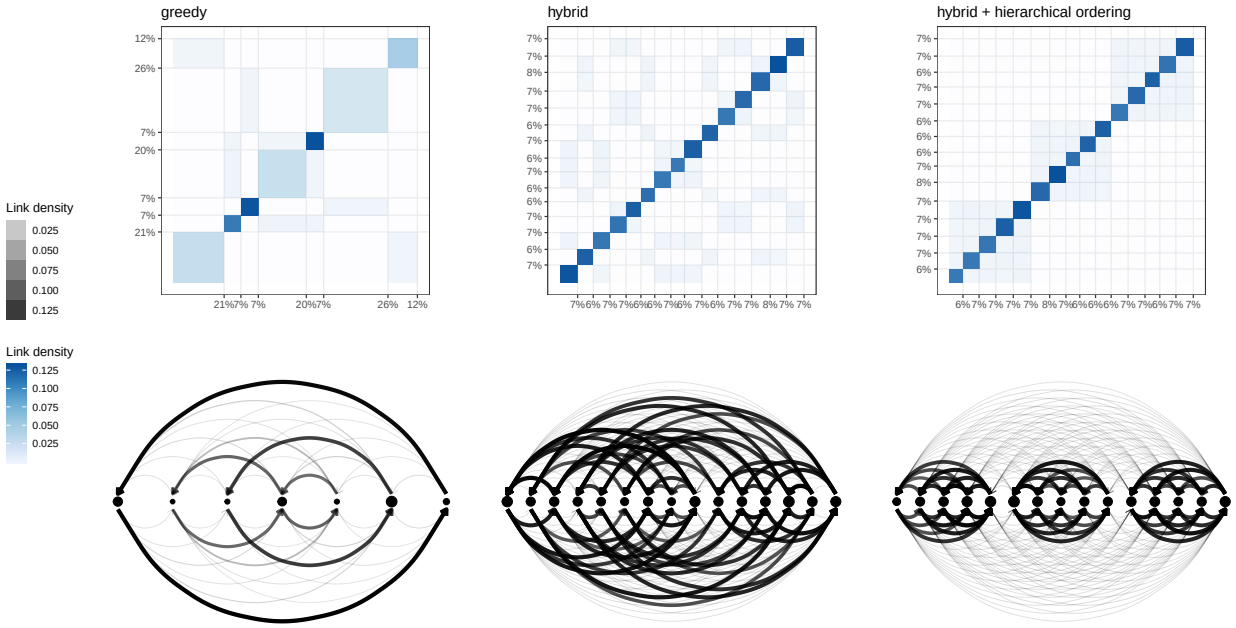
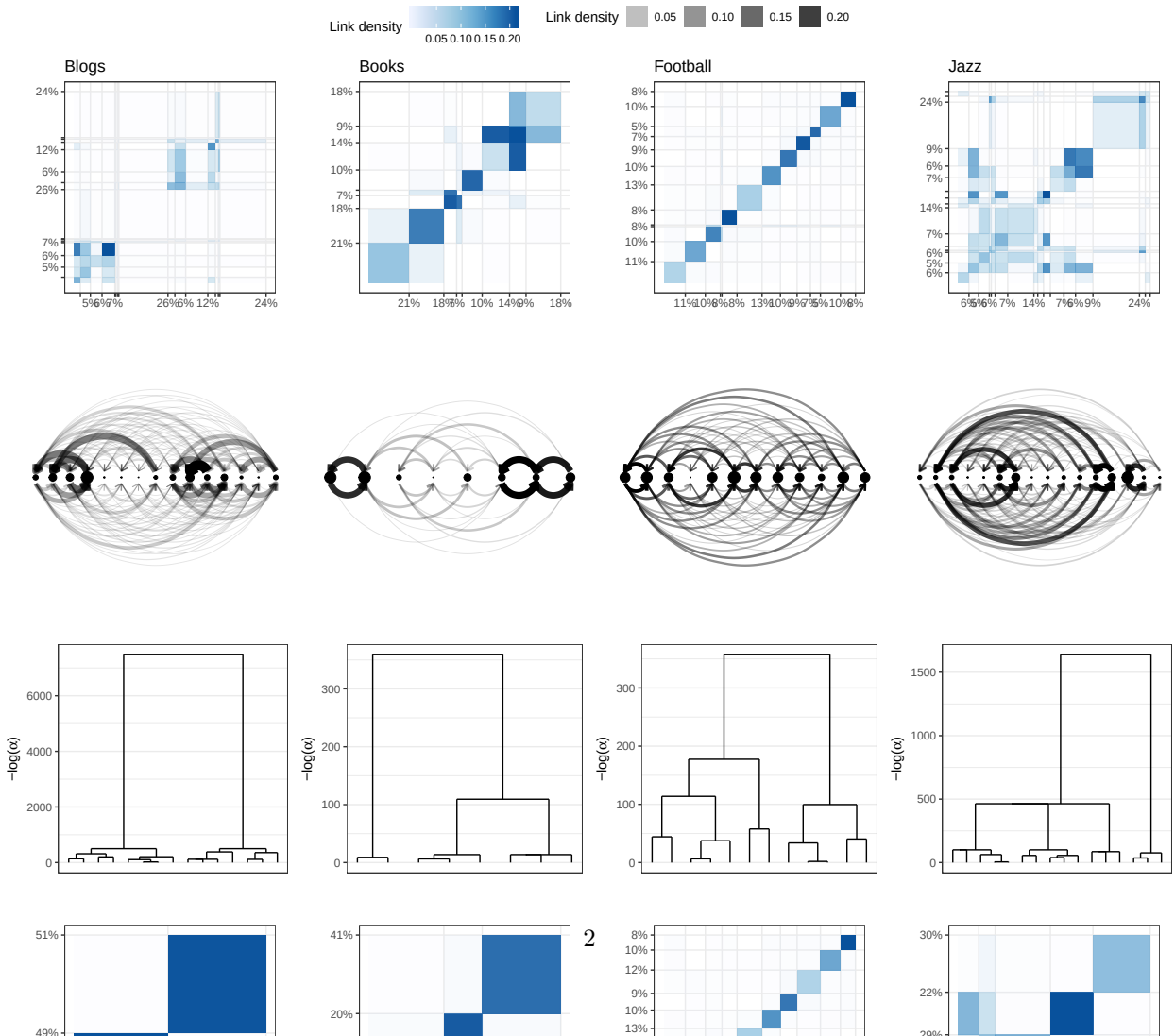
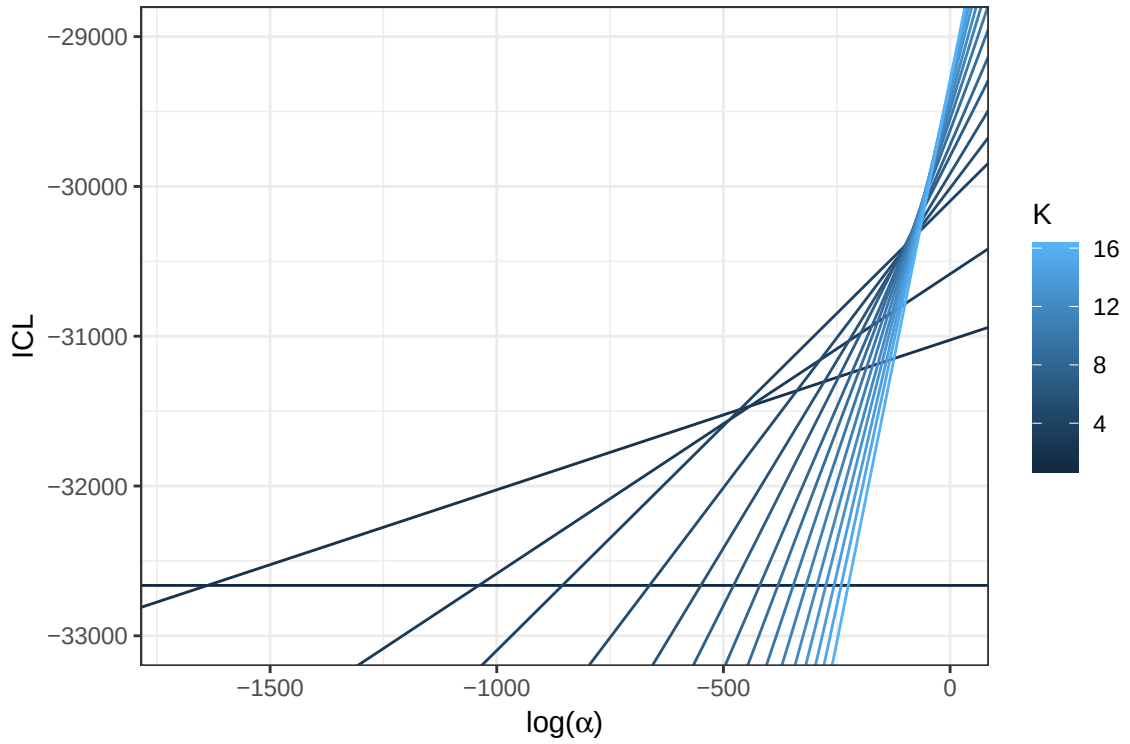


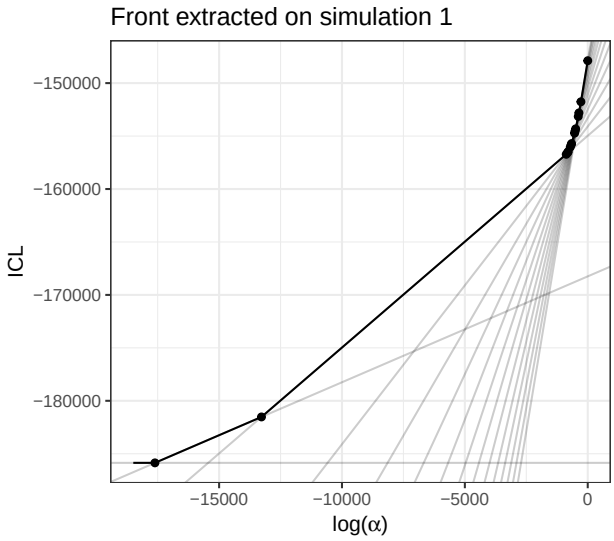
Figure 1: Motivating example of the proposed algorithm. Block matrix representation of the solutions (upper row) and cluster node link diagram (bottom row).

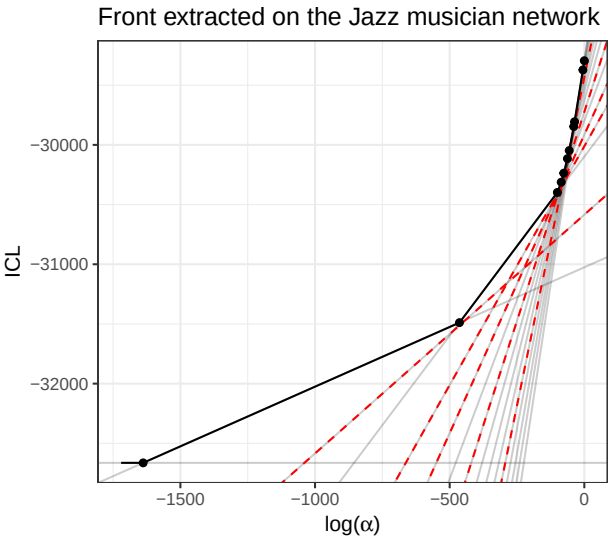


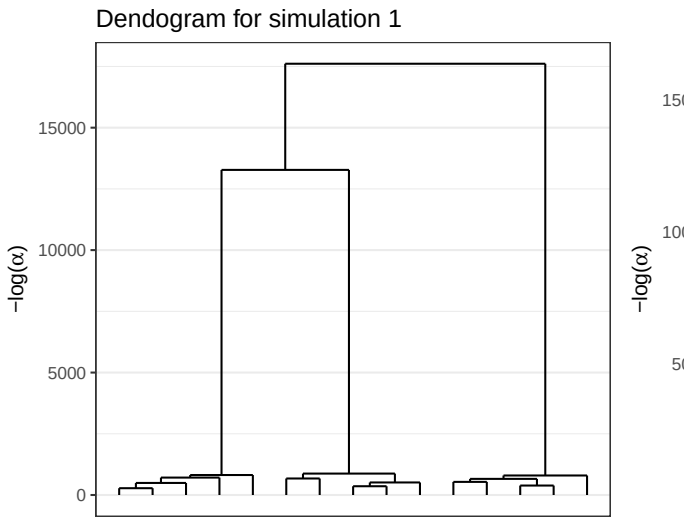
```
## Joining, by = c("icl", "K")
```

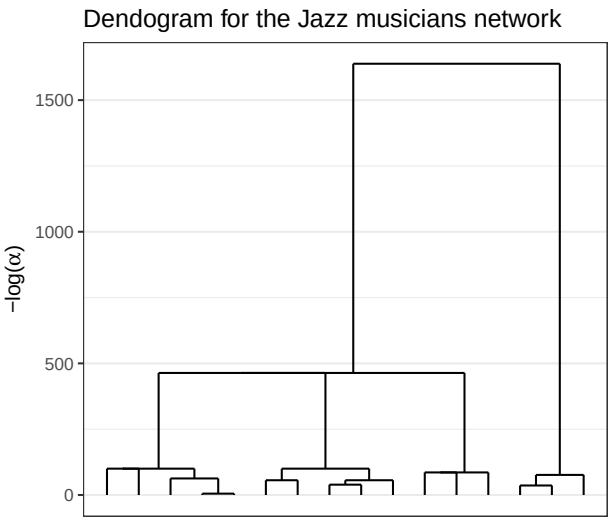



```
## Joining, by = c("icl", "K")
```



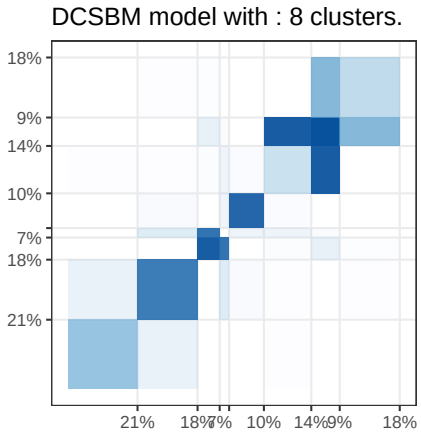



Dendogram for simulation 1
−log(α)
15000
10000
5000
0


Dendogram for the Jazz musicians network
−log(α)
1500
1000
500
0


Link density
0.1
0.2
0.3
0.4


Link density
0.1
0.2
0.3
0.4


DCSBM model with : 8 clusters.
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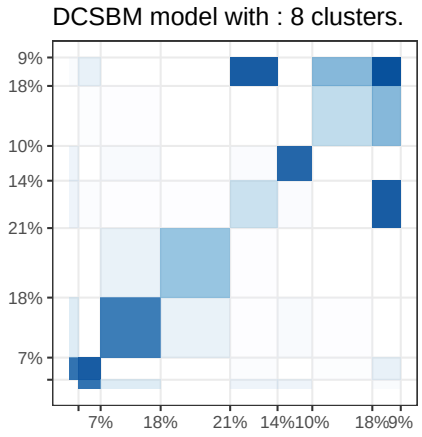
DCSBM model with : 8 clusters.
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