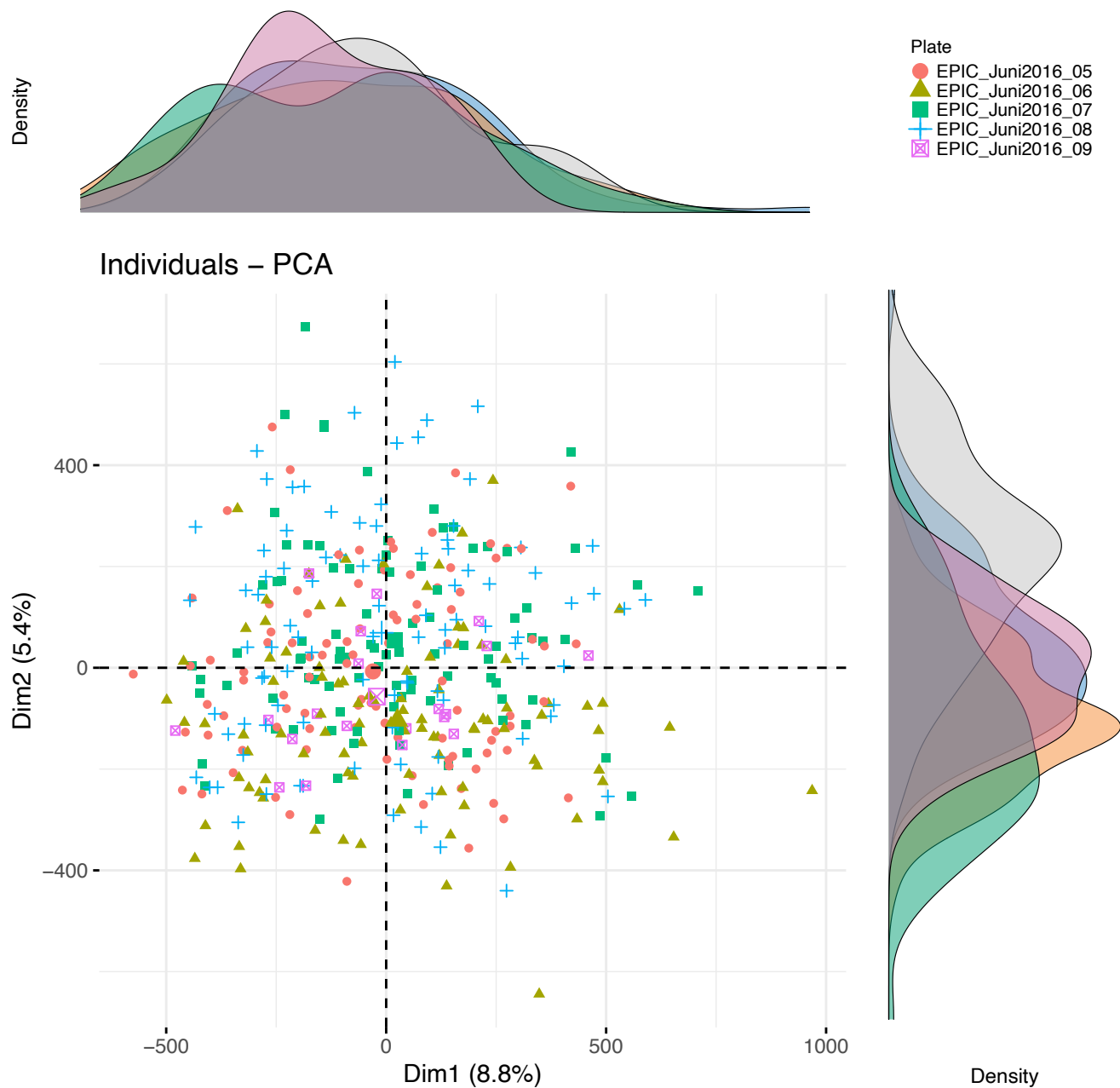
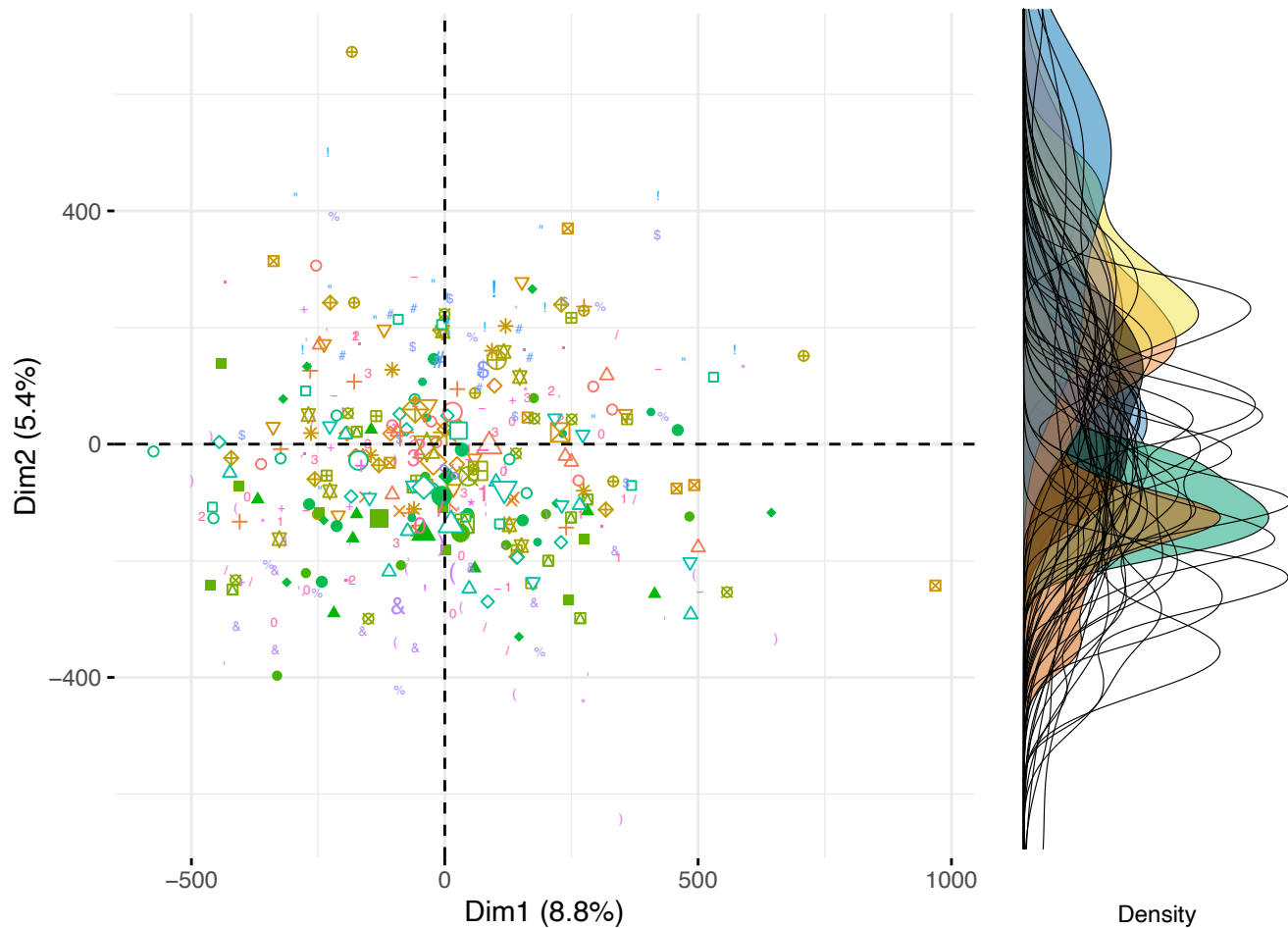


PCA Ind map and density plots before correction by Plate

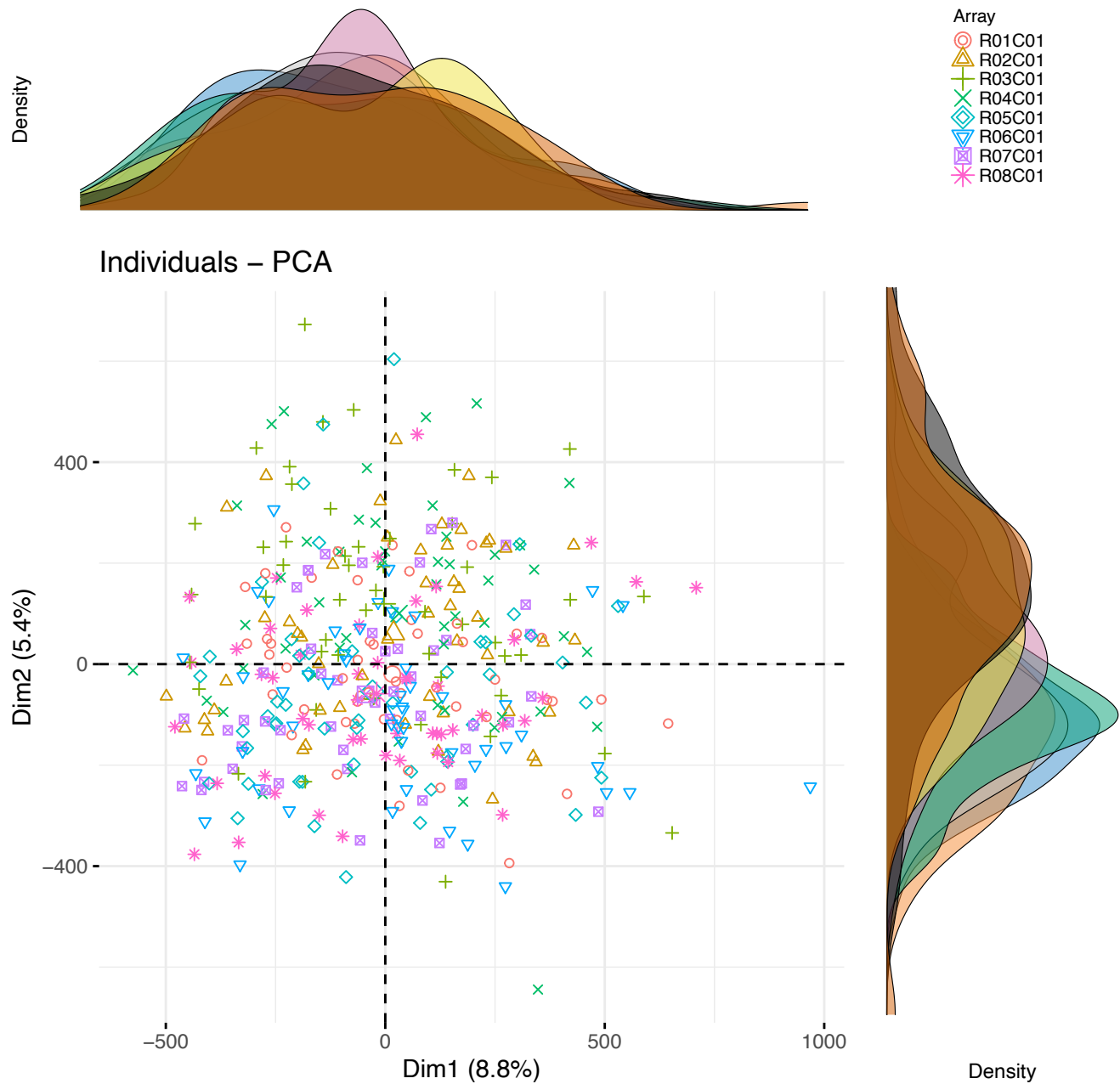


|               |               |    |      |
|---------------|---------------|----|------|
| 2007053600133 | 2007053940033 | #  | 2007 |
| 2007053600003 | 200705940043  | \$ | 2007 |
| 200705360018  | 200705940062  | %  | 2007 |
| 200705360019  | 200705940085  | &  | 2007 |
| 200705360025  | 200705940088  | '  | 2007 |
| 200705360032  | 200705940096  | (  | 2007 |
| 200705360035  | 200712160002  | )  | 2007 |
| 200705360036  | 200712160033  | *  | 2007 |
| 200705360049  | 200712160042  | +  | 2007 |
| 200705360050  | 200712160065  | .  | 2007 |
| 200705360079  | 200712160082  | -  | 2007 |
| 200705360087  | 200712160086  | =  | 2007 |
| 200705360106  | 200712160098  | /  | 2007 |
| 200705860062  | 200712160100  | 0  | 2007 |
| 200705860068  | 200712160102  | 1  | 2007 |
| 200705        | 200712160103  | 2  | 2007 |

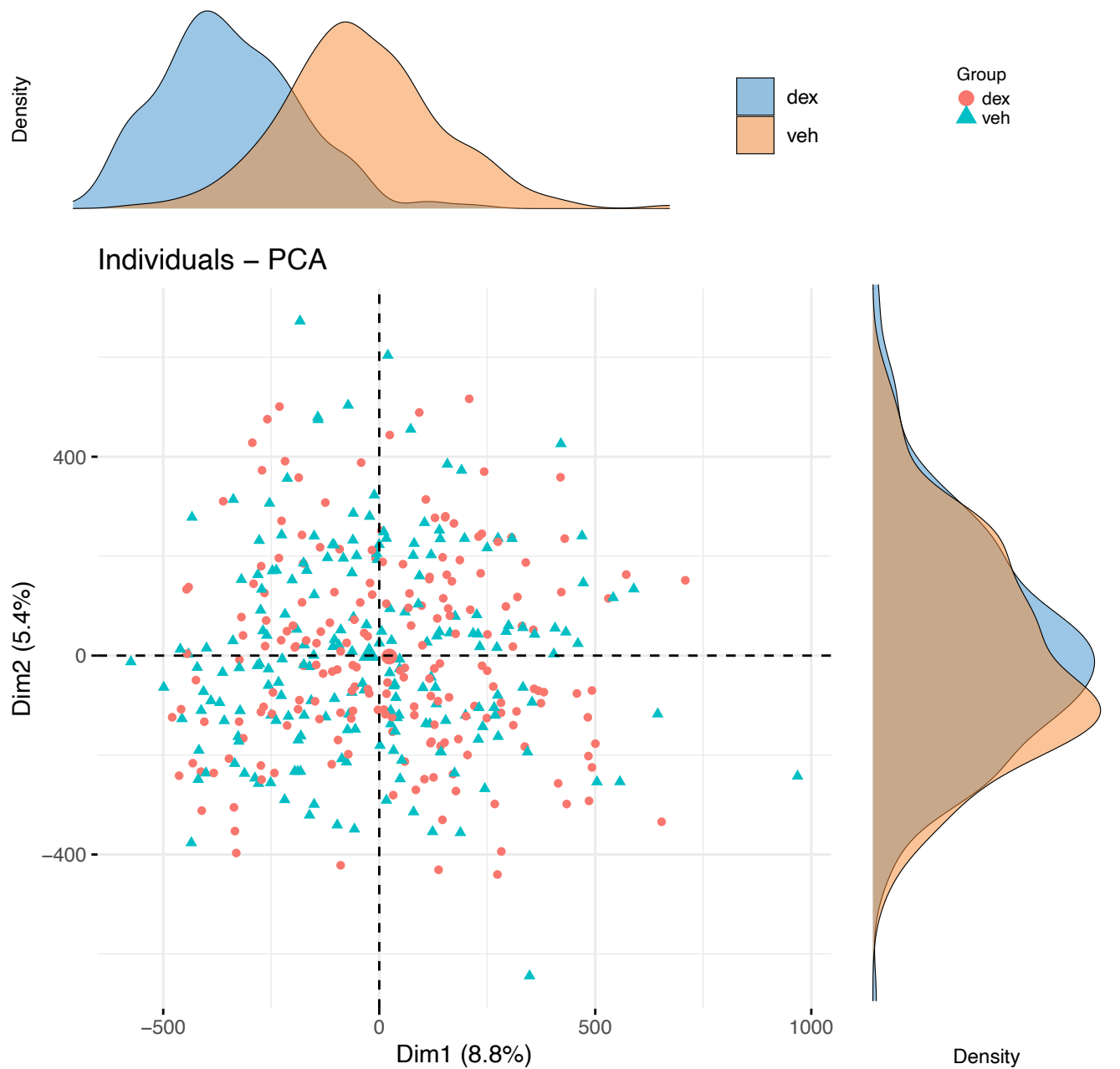
|               |   |               |    |               |
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| 2007053400133 | ◆ | 2007053940033 | #  | 2007053940033 |
| 2007053600003 | ◆ | 2007059400043 | \$ | 2007059400043 |
| 2007053600018 | ○ | 2007059400062 | %  | 2007059400062 |
| 2007053600019 | ○ | 2007059400085 | &  | 2007059400085 |
| 2007053600025 | □ | 2007059400088 | !  | 2007059400088 |
| 2007053600032 | ◇ | 2007059400096 | (  | 2007059400096 |
| 2007053600035 | ◇ | 2007121600002 | )  | 2007121600002 |
| 2007053600036 | ▽ | 2007121600033 | *  | 2007121600033 |
| 2007053600049 | ▽ | 2007121600042 | +  | 2007121600042 |
| 2007053600050 | ◇ | 2007121600065 | ,  | 2007121600065 |
| 2007053600079 | ◇ | 2007121600082 | -  | 2007121600082 |
| 2007053600087 | ◇ | 2007121600086 | .  | 2007121600086 |
| 2007053600106 | ◇ | 2007121600098 | /  | 2007121600098 |
| 2007058600062 | ◇ | 2007121601100 | 0  | 2007121601100 |
| 2007058600068 | ◇ | 2007121601102 | 1  | 2007121601102 |
| 2007058600070 | ◇ | 2007121601103 | 2  | 2007121601103 |
| 2007058600073 | ◇ | 2007121601104 | 3  | 2007121601104 |
| 2007058600075 | ◇ | 2007121601105 | 4  | 2007121601105 |
| 2007058600076 | ◇ | 2007121601106 | 5  | 2007121601106 |
| 2007058600077 | ◇ | 2007121601107 | 6  | 2007121601107 |
| 2007058600078 | ◇ | 2007121601108 | 7  | 2007121601108 |
| 2007058600079 | ◇ | 2007121601109 | 8  | 2007121601109 |
| 2007058600080 | ◇ | 2007121601110 | 9  | 2007121601110 |
| 2007058600081 | ◇ | 2007121601111 | 0  | 2007121601111 |
| 2007058600082 | ◇ | 2007121601112 | 1  | 2007121601112 |
| 2007058600083 | ◇ | 2007121601113 | 2  | 2007121601113 |
| 2007058600084 | ◇ | 2007121601114 | 3  | 2007121601114 |
| 2007058600085 | ◇ | 2007121601115 | 4  | 2007121601115 |
| 2007058600086 | ◇ | 2007121601116 | 5  | 2007121601116 |
| 2007058600087 | ◇ | 2007121601117 | 6  | 2007121601117 |
| 2007058600088 | ◇ | 2007121601118 | 7  | 2007121601118 |
| 2007058600089 | ◇ | 2007121601119 | 8  | 2007121601119 |
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| 2007058600091 | ◇ | 2007121601121 | 0  | 2007121601121 |
| 2007058600092 | ◇ | 2007121601122 | 1  | 2007121601122 |
| 2007058600093 | ◇ | 2007121601123 | 2  | 2007121601123 |
| 2007058600094 | ◇ | 2007121601124 | 3  | 2007121601124 |
| 2007058600095 | ◇ | 2007121601125 | 4  | 2007121601125 |
| 2007058600096 | ◇ | 2007121601126 | 5  | 2007121601126 |
| 2007058600097 | ◇ | 2007121601127 | 6  | 2007121601127 |
| 2007058600098 | ◇ | 2007121601128 | 7  | 2007121601128 |
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| 2007058600104 | ◇ | 2007121601134 | 3  | 2007121601134 |
| 2007058600105 | ◇ | 2007121601135 | 4  | 2007121601135 |
| 2007058600106 | ◇ | 2007121601136 | 5  | 2007121601136 |
| 2007058600107 | ◇ | 2007121601137 | 6  | 2007121601137 |
| 2007058600108 | ◇ | 2007121601138 | 7  | 2007121601138 |
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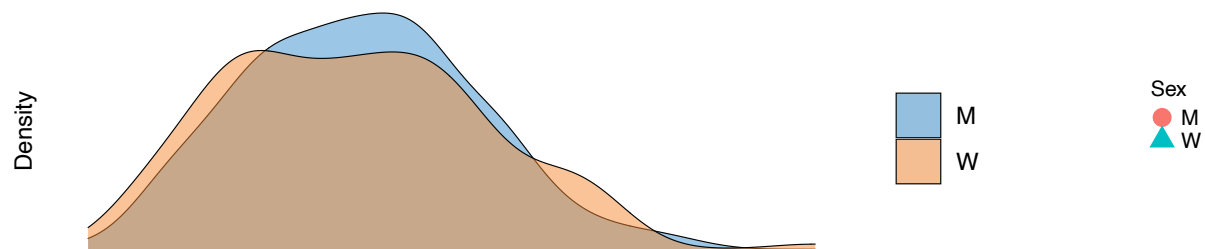
# PCA Ind map and density plots before correction by Array



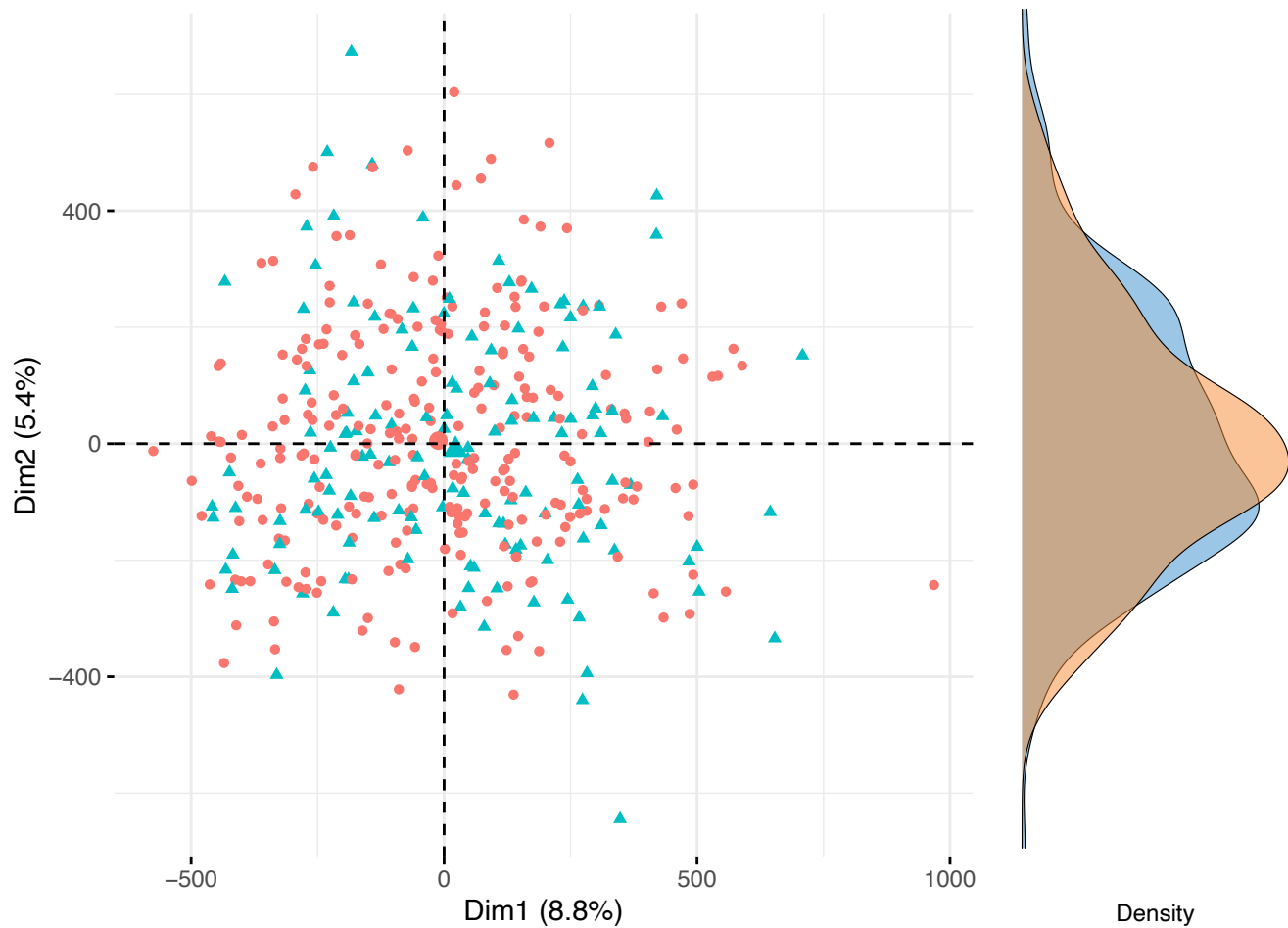
# PCA Ind map and density plots before correction by Group (dex/veh)



PCA Ind map and density plots before correction by Sex



Individuals – PCA



## Summary table of P-values for PCs before batch correction

|            | P_Plate | P_Slide | P_Array | P_DEX   | P_Sex   |
|------------|---------|---------|---------|---------|---------|
| PC1.Pr..F. | 0.54207 | 0.94143 | 0.73818 | 0.06788 | 0.21251 |
| PC2.Pr..F. | 0.00000 | 0.00000 | 0.00000 | 0.84504 | 0.46059 |
| PC3.Pr..F. | 0.00000 | 0.00000 | 0.00001 | 0.75903 | 0.91300 |
| PC4.Pr..F. | 0.97917 | 0.00001 | 0.00147 | 0.97509 | 0.17027 |
| PC5.Pr..F. | 0.00000 | 0.00000 | 0.16026 | 0.92386 | 0.10236 |
| PC6.Pr..F. | 0.00014 | 0.00000 | 0.07470 | 0.92649 | 0.26453 |

# ANOVA results for Plate before batch correction

\$PC1

Analysis of Variance Table

Response: pc

|                         | Df  | Sum Sq   | Mean Sq | F value | Pr(>F) |
|-------------------------|-----|----------|---------|---------|--------|
| Prin.comp\$Sample_Plate | 4   | 203341   | 50835   | 0.7748  | 0.5421 |
| Residuals               | 398 | 26113161 | 65611   |         |        |

\$PC2

Analysis of Variance Table

Response: pc

|                         | Df  | Sum Sq   | Mean Sq | F value | Pr(>F)        |
|-------------------------|-----|----------|---------|---------|---------------|
| Prin.comp\$Sample_Plate | 4   | 1844092  | 461023  | 12.954  | 6.327e-10 *** |
| Residuals               | 398 | 14163944 | 35588   |         |               |

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

\$PC3

Analysis of Variance Table

Response: pc

|                         | Df  | Sum Sq  | Mean Sq | F value | Pr(>F)        |
|-------------------------|-----|---------|---------|---------|---------------|
| Prin.comp\$Sample_Plate | 4   | 770089  | 192522  | 11.444  | 8.398e-09 *** |
| Residuals               | 398 | 6695598 | 16823   |         |               |

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

\$PC4

Analysis of Variance Table

Response: pc

|                         | Df  | Sum Sq  | Mean Sq | F value | Pr(>F) |
|-------------------------|-----|---------|---------|---------|--------|
| Prin.comp\$Sample_Plate | 4   | 7546    | 1886.6  | 0.1095  | 0.9792 |
| Residuals               | 398 | 6856884 | 17228.4 |         |        |

\$PC5

Analysis of Variance Table

Response: pc

|                         | Df  | Sum Sq  | Mean Sq | F value | Pr(>F)        |
|-------------------------|-----|---------|---------|---------|---------------|
| Prin.comp\$Sample_Plate | 4   | 452102  | 113026  | 13.021  | 5.647e-10 *** |
| Residuals               | 398 | 3454663 | 8680    |         |               |

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

\$PC6

Analysis of Variance Table

Response: pc

|                         | Df | Sum Sq | Mean Sq | F value | Pr(>F)        |
|-------------------------|----|--------|---------|---------|---------------|
| Prin.comp\$Sample_Plate | 4  | 197778 | 49445   | 5.8353  | 0.0001428 *** |

# ANOVA results for Slide before batch correction

```
$PC1
Analysis of Variance Table

Response: pc

              Df Sum Sq Mean Sq F value Pr(>F)
as.factor(as.character(Prin.comp$Slide))  50  2366031   47321  0.6955  0.9414
Residuals                                352 23950471   68041

$PC2
Analysis of Variance Table

Response: pc

              Df Sum Sq Mean Sq F value    Pr(>F)
as.factor(as.character(Prin.comp$Slide))  50  7440619  148812  6.1141 < 2.2e-16
Residuals                                352 8567416   24339

as.factor(as.character(Prin.comp$Slide)) ***
Residuals
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

$PC3
Analysis of Variance Table

Response: pc

              Df Sum Sq Mean Sq F value    Pr(>F)
as.factor(as.character(Prin.comp$Slide))  50 4799877   95998 12.676 < 2.2e-16
Residuals                                352 2665809   7573

as.factor(as.character(Prin.comp$Slide)) ***
Residuals
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

$PC4
Analysis of Variance Table

Response: pc

              Df Sum Sq Mean Sq F value    Pr(>F)
as.factor(as.character(Prin.comp$Slide))  50 1691450   33829  2.3019 6.411e-06
Residuals                                352 5172980  14696

as.factor(as.character(Prin.comp$Slide)) ***
Residuals
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

$PC5
Analysis of Variance Table

Response: pc

              Df Sum Sq Mean Sq F value    Pr(>F)
```



# ANOVA results for Array before batch correction

\$PC1

Analysis of Variance Table

Response: pc

|                  | Df  | Sum Sq   | Mean Sq | F value | Pr(>F) |
|------------------|-----|----------|---------|---------|--------|
| Prin.comp\$Array | 7   | 286711   | 40959   | 0.6215  | 0.7382 |
| Residuals        | 395 | 26029791 | 65898   |         |        |

\$PC2

Analysis of Variance Table

Response: pc

|                  | Df  | Sum Sq   | Mean Sq | F value | Pr(>F)        |
|------------------|-----|----------|---------|---------|---------------|
| Prin.comp\$Array | 7   | 2393835  | 341976  | 9.922   | 2.004e-11 *** |
| Residuals        | 395 | 13614200 | 34466   |         |               |

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

\$PC3

Analysis of Variance Table

Response: pc

|                  | Df  | Sum Sq  | Mean Sq | F value | Pr(>F)        |
|------------------|-----|---------|---------|---------|---------------|
| Prin.comp\$Array | 7   | 631113  | 90159   | 5.2107  | 1.068e-05 *** |
| Residuals        | 395 | 6834573 | 17303   |         |               |

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

\$PC4

Analysis of Variance Table

Response: pc

|                  | Df  | Sum Sq  | Mean Sq | F value | Pr(>F)      |
|------------------|-----|---------|---------|---------|-------------|
| Prin.comp\$Array | 7   | 391861  | 55980   | 3.4163  | 0.001473 ** |
| Residuals        | 395 | 6472569 | 16386   |         |             |

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

\$PC5

Analysis of Variance Table

Response: pc

|                  | Df  | Sum Sq  | Mean Sq | F value | Pr(>F) |
|------------------|-----|---------|---------|---------|--------|
| Prin.comp\$Array | 7   | 102178  | 14596.8 | 1.5155  | 0.1603 |
| Residuals        | 395 | 3804588 | 9631.9  |         |        |

\$PC6

Analysis of Variance Table

Response: pc

|                  | Df | Sum Sq | Mean Sq | F value | Pr(>F) |
|------------------|----|--------|---------|---------|--------|
| Prin.comp\$Array | 7  | 113967 | 16281.0 | 1.8607  | 0.0747 |

# ANOVA results for Sample Group before batch correction

```
$PC1
Analysis of Variance Table

Response: pc
              Df Sum Sq Mean Sq F value Pr(>F)
Prin.comp$Sample_Group 1    218130    218130    3.3516 0.06788 .
Residuals              401  26098372    65083
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

$PC2
Analysis of Variance Table

Response: pc
              Df Sum Sq Mean Sq F value Pr(>F)
Prin.comp$Sample_Group 1     1527     1527    0.0383 0.845
Residuals              401 16006508    39916

$PC3
Analysis of Variance Table

Response: pc
              Df Sum Sq Mean Sq F value Pr(>F)
Prin.comp$Sample_Group 1     1754     1753.9    0.0942 0.759
Residuals              401  7463933    18613.3

$PC4
Analysis of Variance Table

Response: pc
              Df Sum Sq Mean Sq F value Pr(>F)
Prin.comp$Sample_Group 1       17      16.7    0.001 0.9751
Residuals              401  6864414    17118.2

$PC5
Analysis of Variance Table

Response: pc
              Df Sum Sq Mean Sq F value Pr(>F)
Prin.comp$Sample_Group 1       89      89.1    0.0091 0.9239
Residuals              401  3906676    9742.3

$PC6
Analysis of Variance Table

Response: pc
              Df Sum Sq Mean Sq F value Pr(>F)
Prin.comp$Sample_Group 1       76      75.9    0.0085 0.9265
Residuals              401 3570107    8903.0
```

# ANOVA results for Sex before batch correction

\$PC1

Analysis of Variance Table

Response: pc

|                | Df  | Sum Sq   | Mean Sq | F value | Pr(>F) |
|----------------|-----|----------|---------|---------|--------|
| Prin.comp\$sex | 1   | 101929   | 101929  | 1.5592  | 0.2125 |
| Residuals      | 401 | 26214573 | 65373   |         |        |

\$PC2

Analysis of Variance Table

Response: pc

|                | Df  | Sum Sq   | Mean Sq | F value | Pr(>F) |
|----------------|-----|----------|---------|---------|--------|
| Prin.comp\$sex | 1   | 21748    | 21748   | 0.5455  | 0.4606 |
| Residuals      | 401 | 15986288 | 39866   |         |        |

\$PC3

Analysis of Variance Table

Response: pc

|                | Df  | Sum Sq  | Mean Sq | F value | Pr(>F) |
|----------------|-----|---------|---------|---------|--------|
| Prin.comp\$sex | 1   | 223     | 222.5   | 0.012   | 0.913  |
| Residuals      | 401 | 7465464 | 18617.1 |         |        |

\$PC4

Analysis of Variance Table

Response: pc

|                | Df  | Sum Sq  | Mean Sq | F value | Pr(>F) |
|----------------|-----|---------|---------|---------|--------|
| Prin.comp\$sex | 1   | 32156   | 32156   | 1.8873  | 0.1703 |
| Residuals      | 401 | 6832274 | 17038   |         |        |

\$PC5

Analysis of Variance Table

Response: pc

|                | Df  | Sum Sq  | Mean Sq | F value | Pr(>F) |
|----------------|-----|---------|---------|---------|--------|
| Prin.comp\$sex | 1   | 25943   | 25943.5 | 2.6807  | 0.1024 |
| Residuals      | 401 | 3880822 | 9677.9  |         |        |

\$PC6

Analysis of Variance Table

Response: pc

|                | Df  | Sum Sq  | Mean Sq | F value | Pr(>F) |
|----------------|-----|---------|---------|---------|--------|
| Prin.comp\$sex | 1   | 11080   | 11080.3 | 1.2484  | 0.2645 |
| Residuals      | 401 | 3559103 | 8875.6  |         |        |