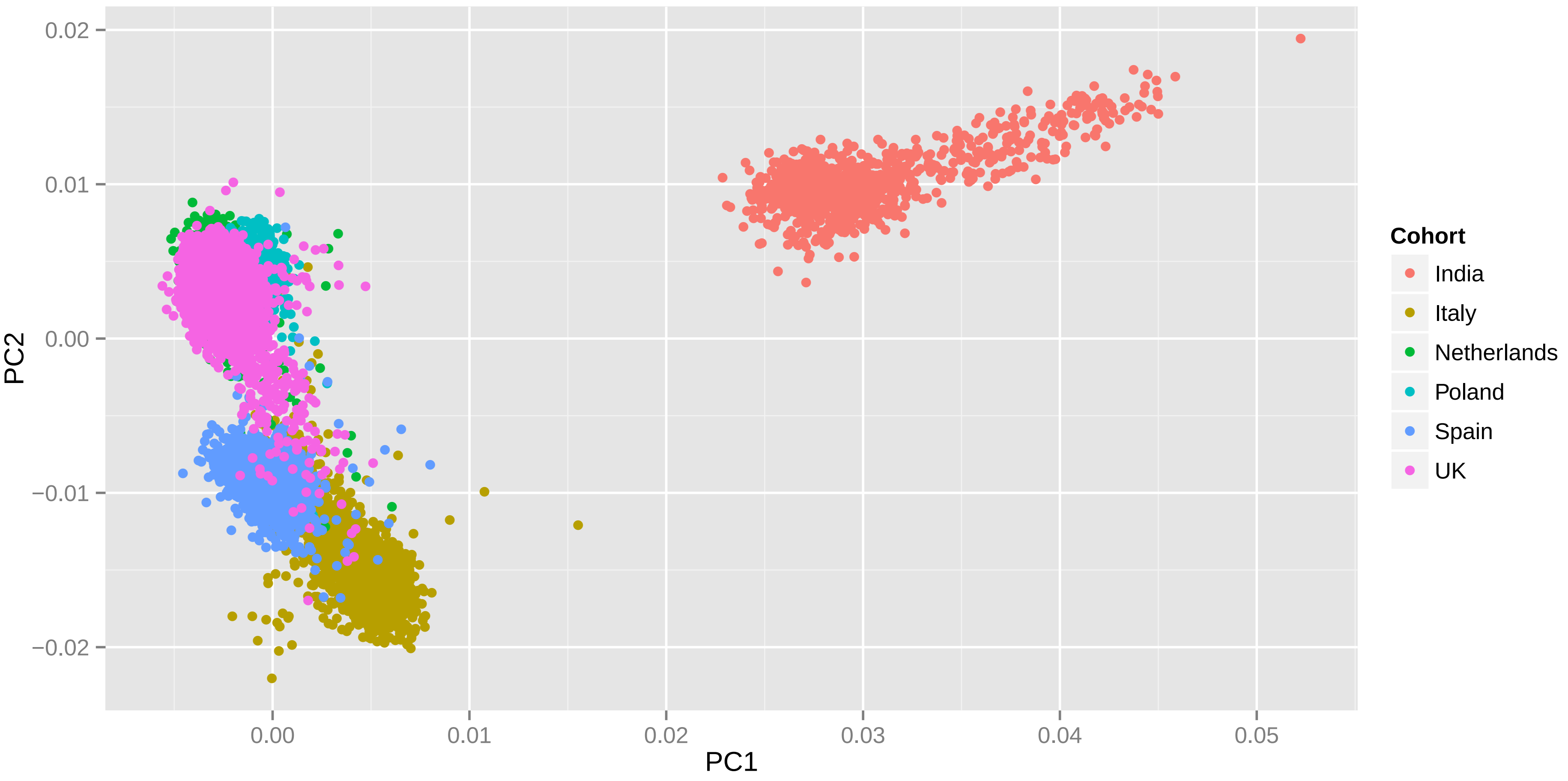
Supplementary Figure 1. Principal Component Analyses in CeD and RA datasets. The panels show that the populations corresponding to A. the CeD and B. the RA datasets cluster properly, without the presence of significant outliers that might introduce bias in the analysis.

Supplementary Figure 2. QQ plots for each of the populations analysed in A. the CeD and B. the RA datasets. The distribution of the p-values adjusted to its theoretical distributions per population. In the UK cohort, despite the deviation observed, the λ value suggested no inflation in the results. The distributions were calculated using a set of independent SNPs ($r2<0.2$) across the genome.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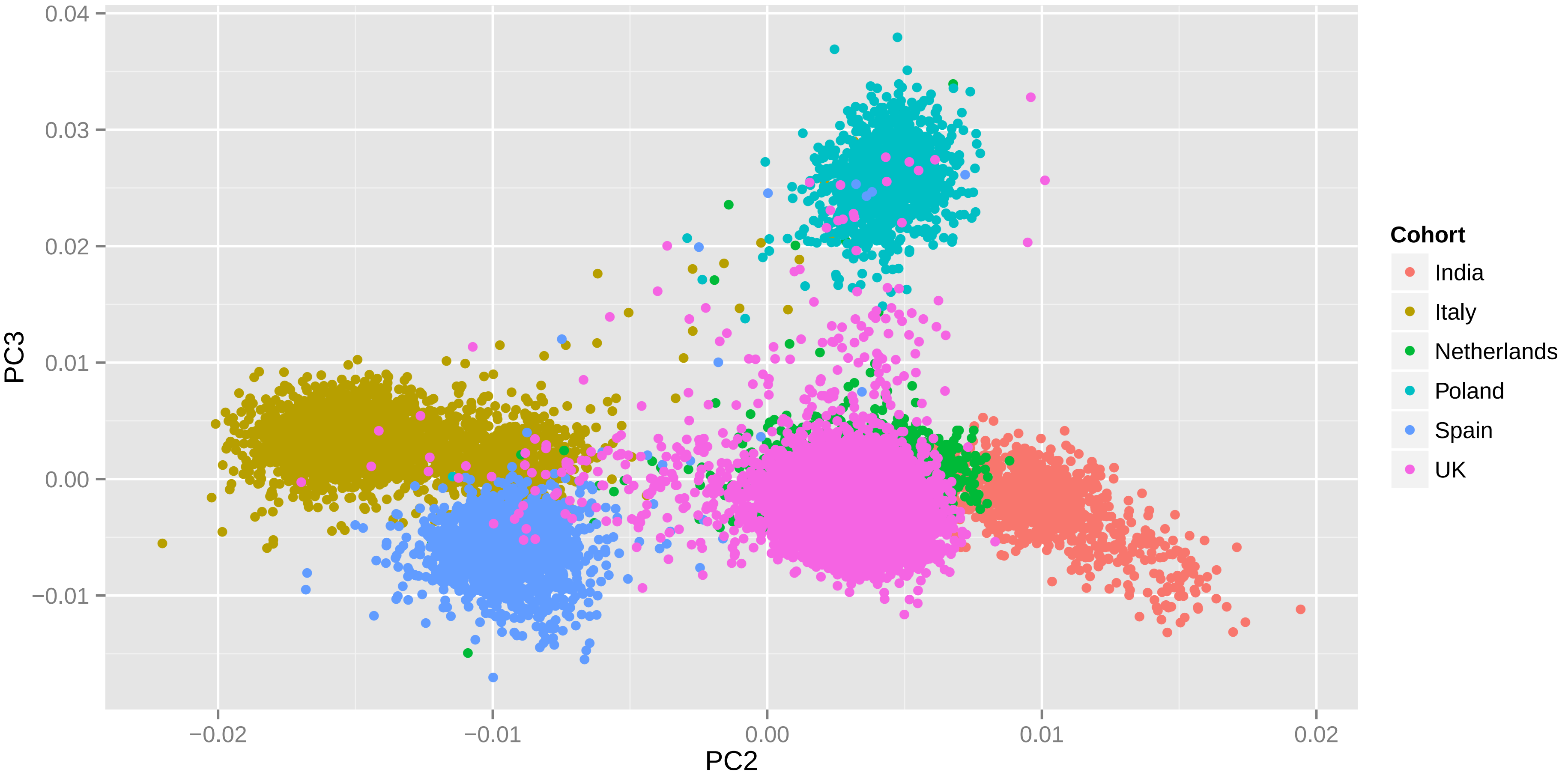
0.02
0.01
0.00
−0.01
−0.02
PC1
0.00
0.01
0.02
0.03
0.04
0.05
Cohort
India
Italy
Netherlands
Poland
Spain
UK


PC3
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0.03
0.02
0.01
0.00
−0.01
PC2
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−0.01
0.00
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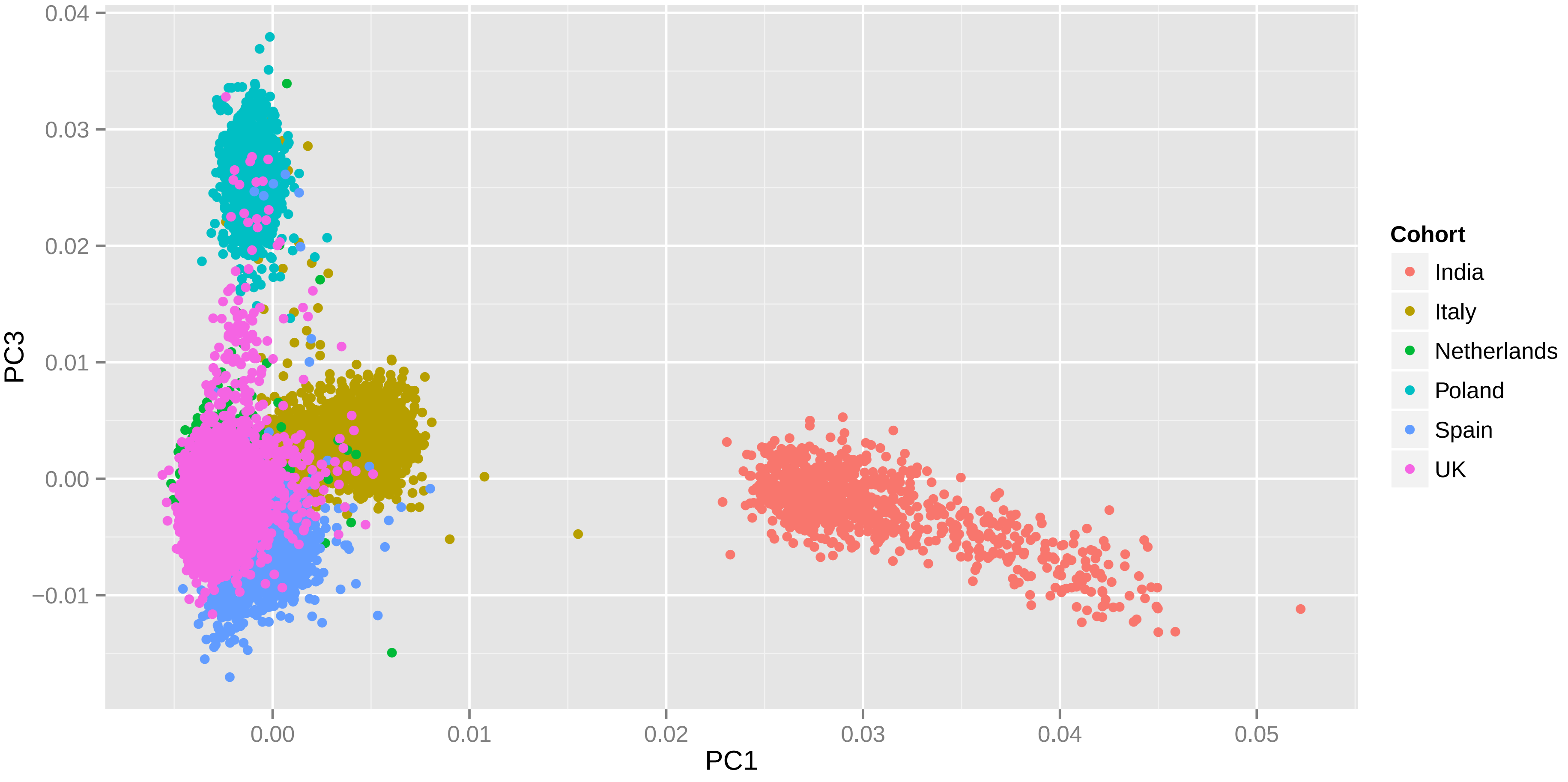
0.02
Cohort
India
Italy
Netherlands
Poland
Spain
UK


PC3
0.04
0.03
0.02
0.01
0.00
−0.01
PC1
0.00
0.01
0.02
0.03
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0.05
Cohort
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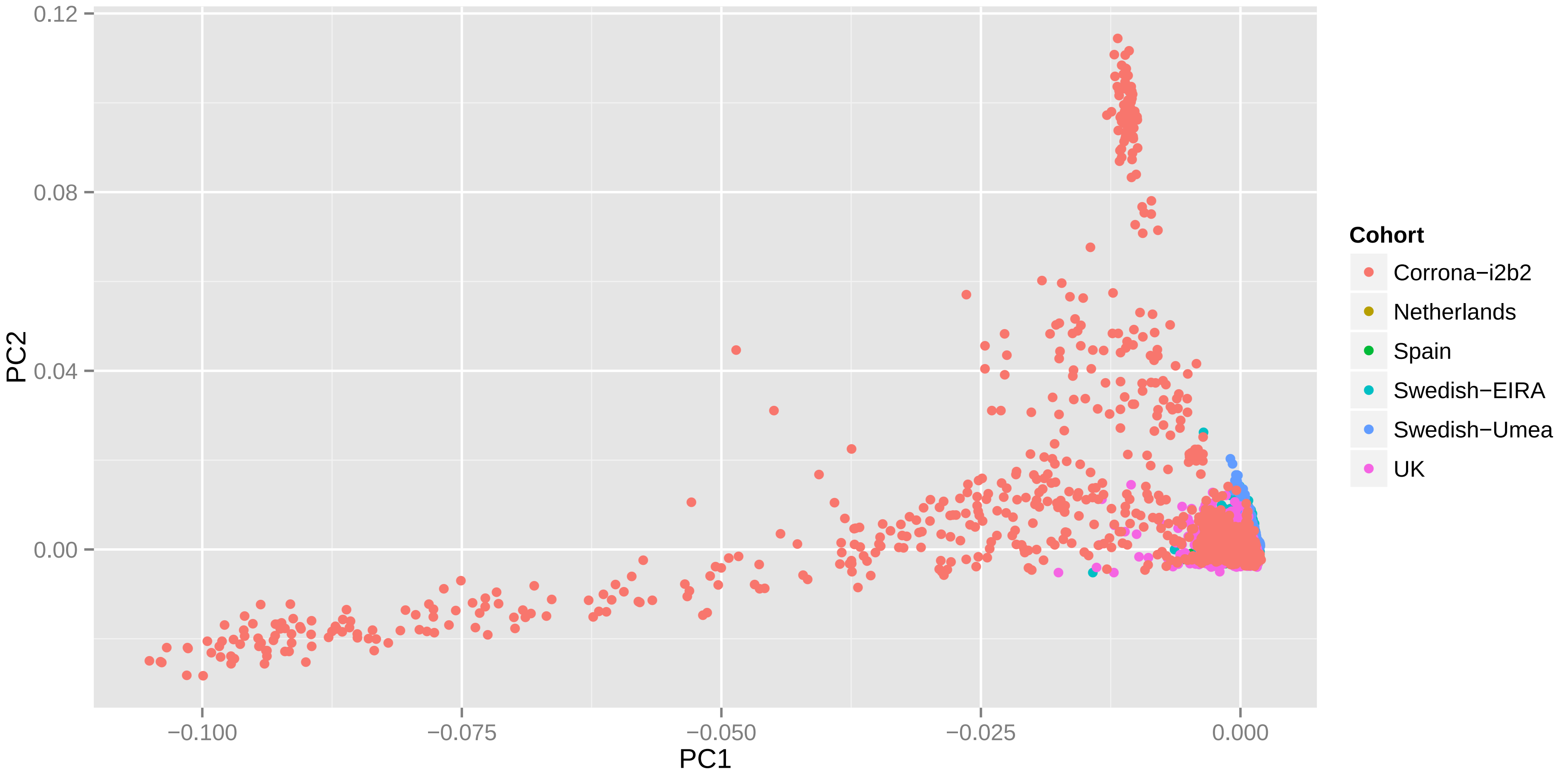
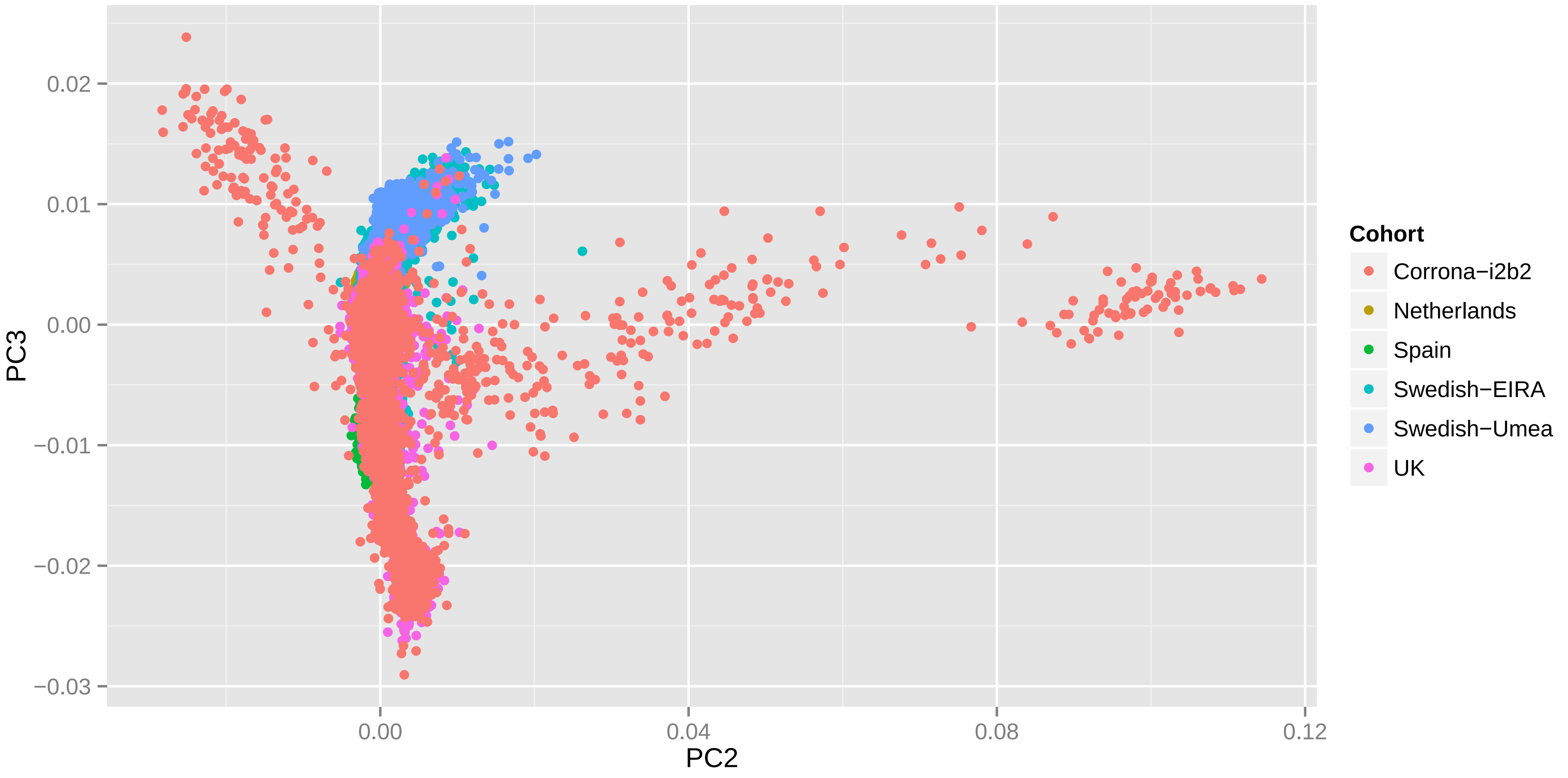
Italy
Netherlands
Poland
Spain
UK


PC2
0.12
0.08
0.04
0.00
−0.100
−0.075
−0.050
−0.025
0.000
PC1
Cohort
● Corrona−i2b2
● Netherlands
● Spain
● Swedish−EIRA
● Swedish−Umea
● UK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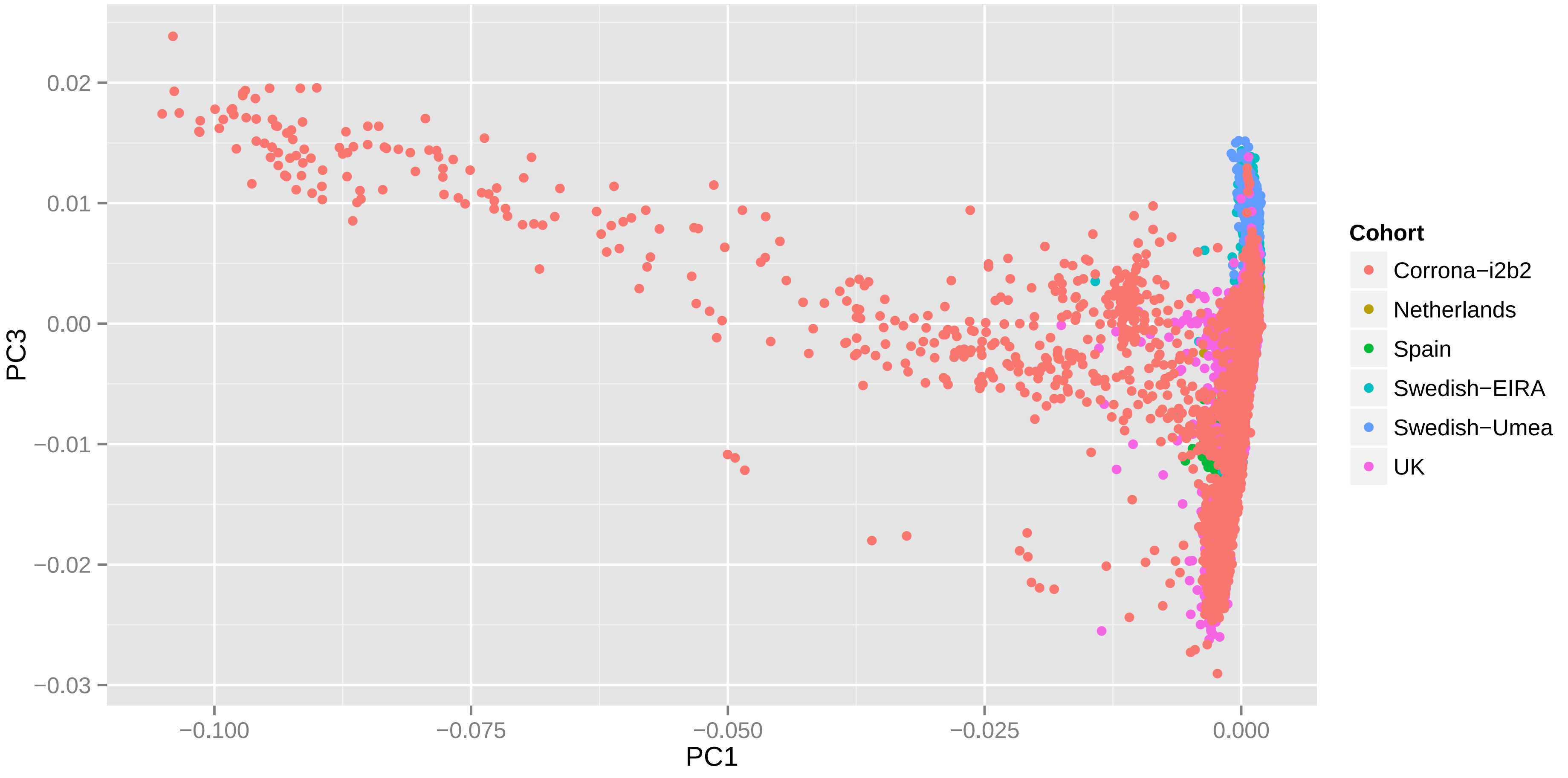
0.02
0.01
0.00
−0.01
−0.02
−0.03
0.00
0.04
0.08
0.12
PC2
Cohort
● Corrona−i2b2
● Netherlands
● Spain
● Swedish−EIRA
● Swedish−Umea
● UK


PC3
0.02
0.01
0.00
−0.01
−0.02
−0.03
−0.100
−0.075
−0.050
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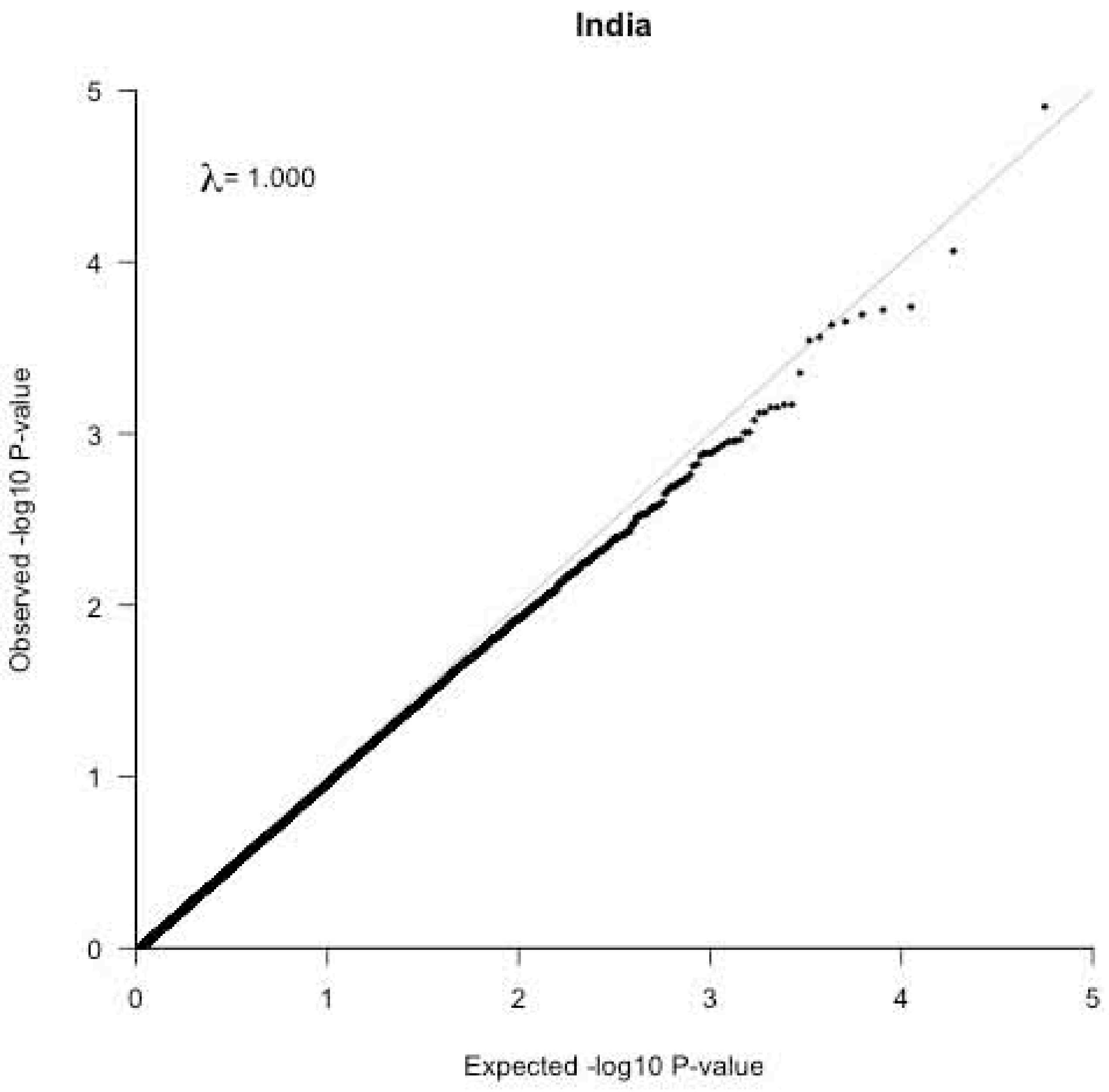
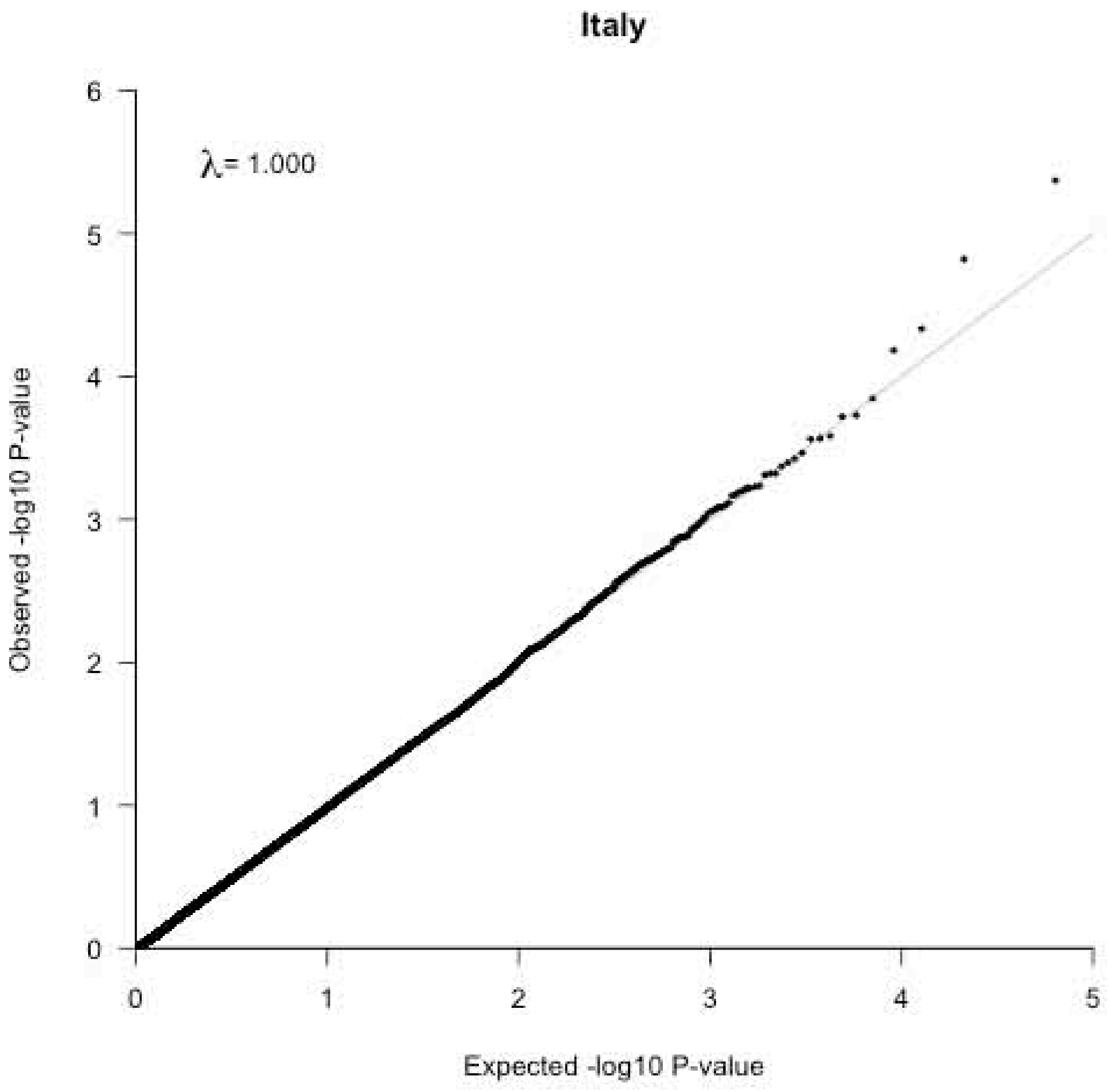
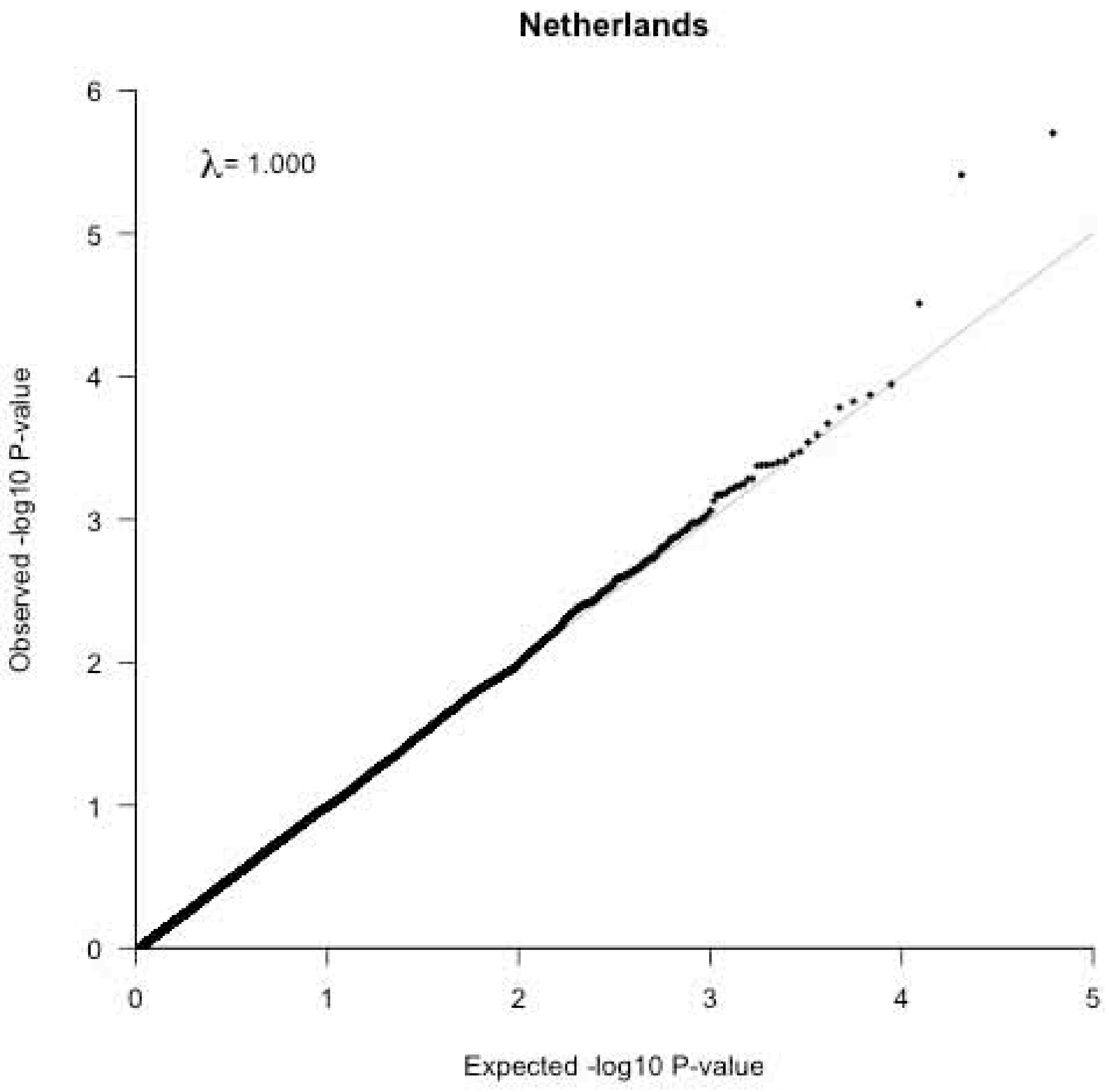
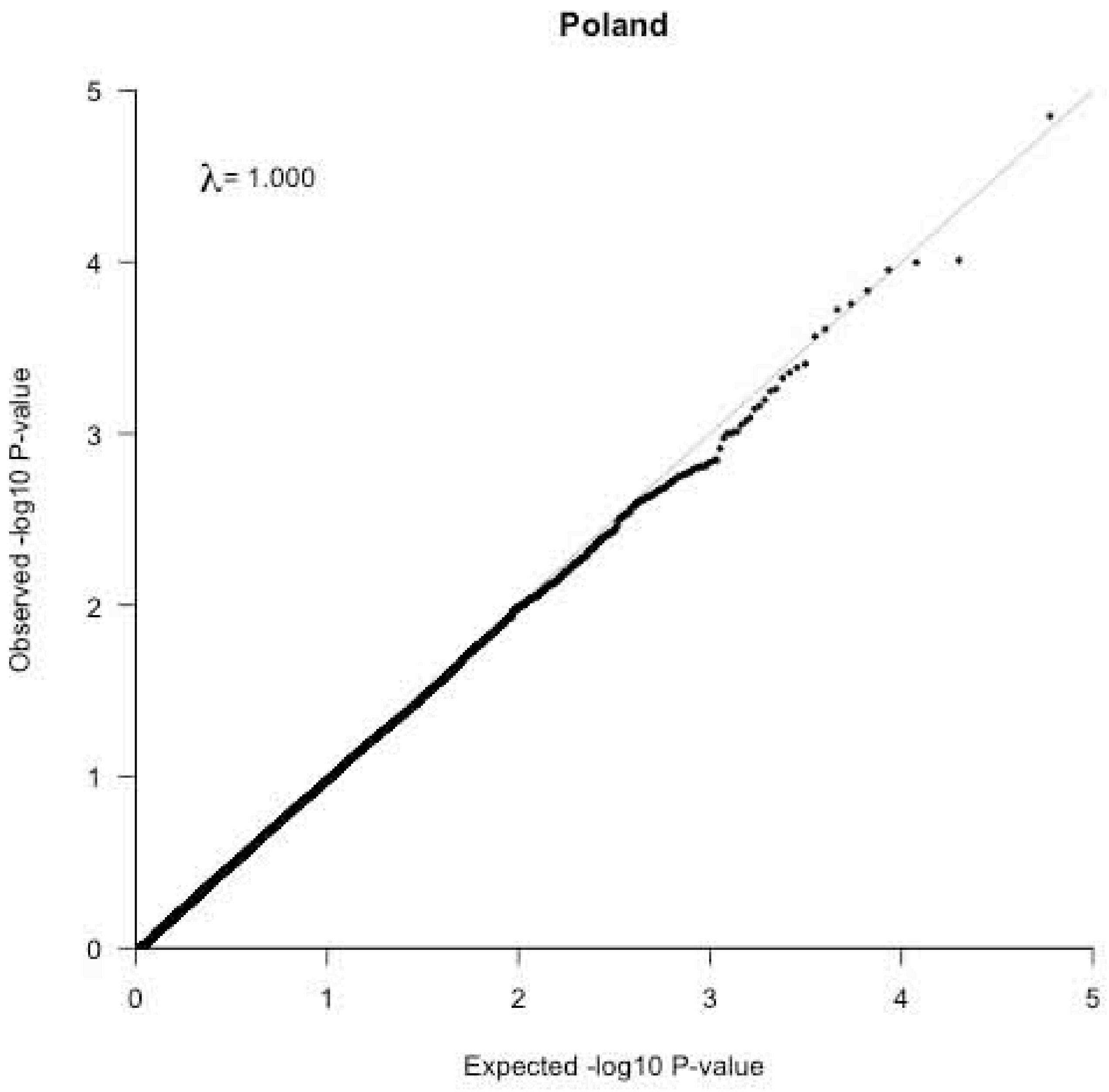
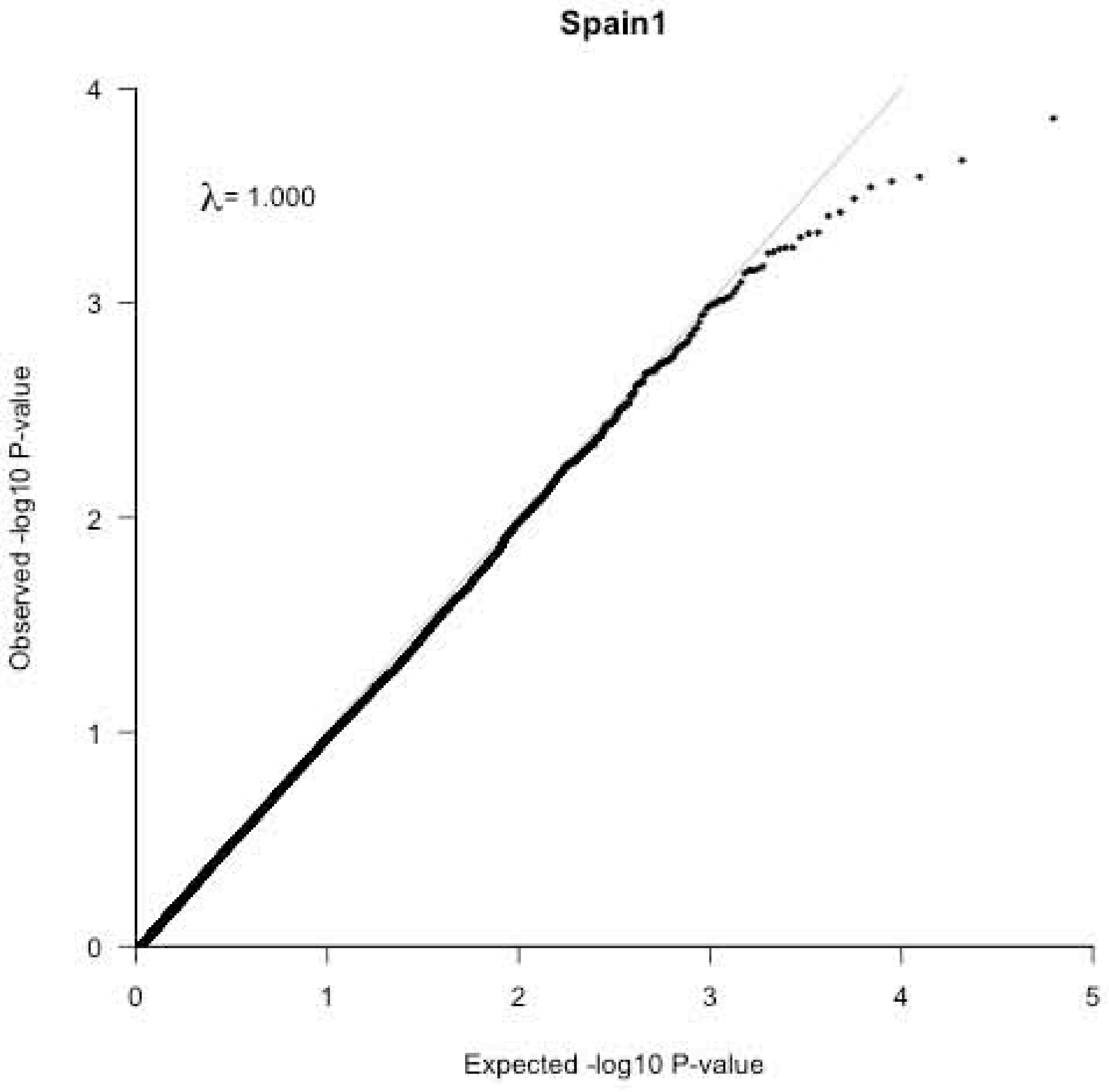
0.000
PC1
Cohort
● Corrona−i2b2
● Netherlands
● Spain
● Swedish−EIRA
● Swedish−Umea
● UK

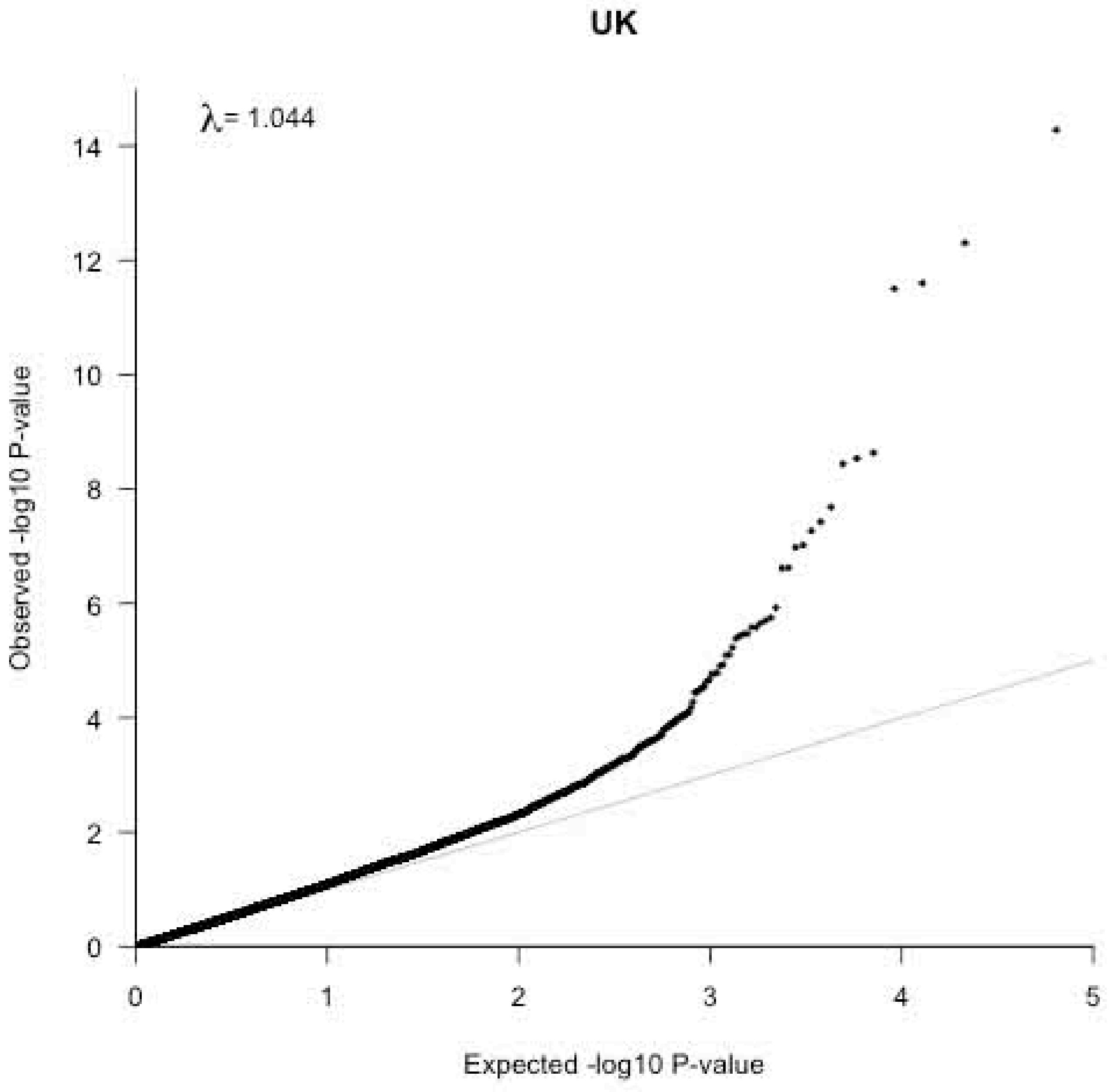

India
λ= 1.000
Observed -log10 P-value
0
1
2
3
4
5
Expected -log10 P-value
0
1
2
3
4
5


Italy
λ= 1.000
Observed -log10 P-value
0
1
2
3
4
5
6
Expected -log10 P-value
0
1
2
3
4
5

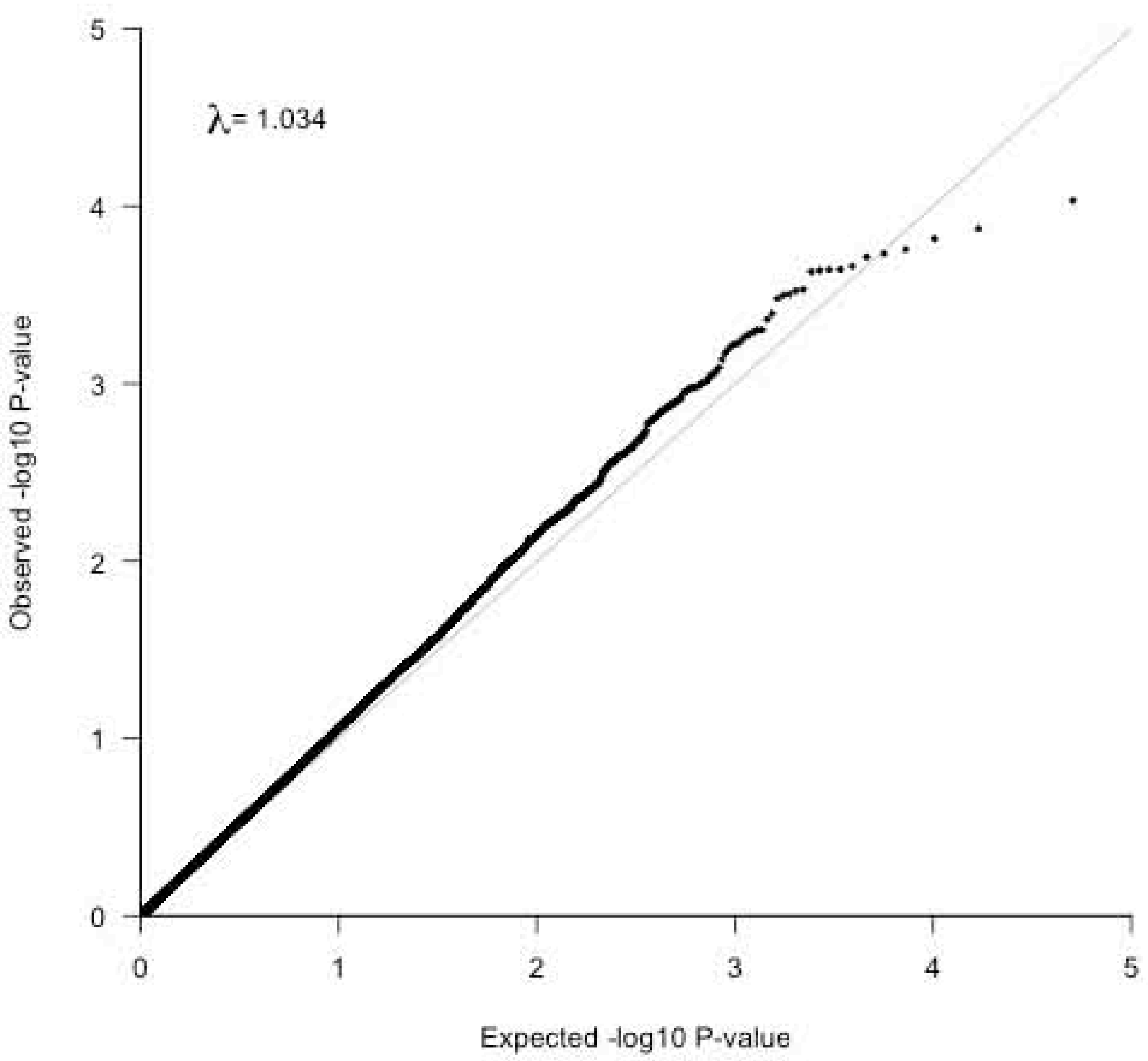

Netherlands
λ= 1.000
Observed -log10 P-value
0
1
2
3
4
5
6
Expected -log10 P-value
0
1
2
3
4
5


Poland
λ= 1.000
Observed -log10 P-value
0
1
2
3
4
5
Expected -log10 P-value
0
1
2
3
4
5

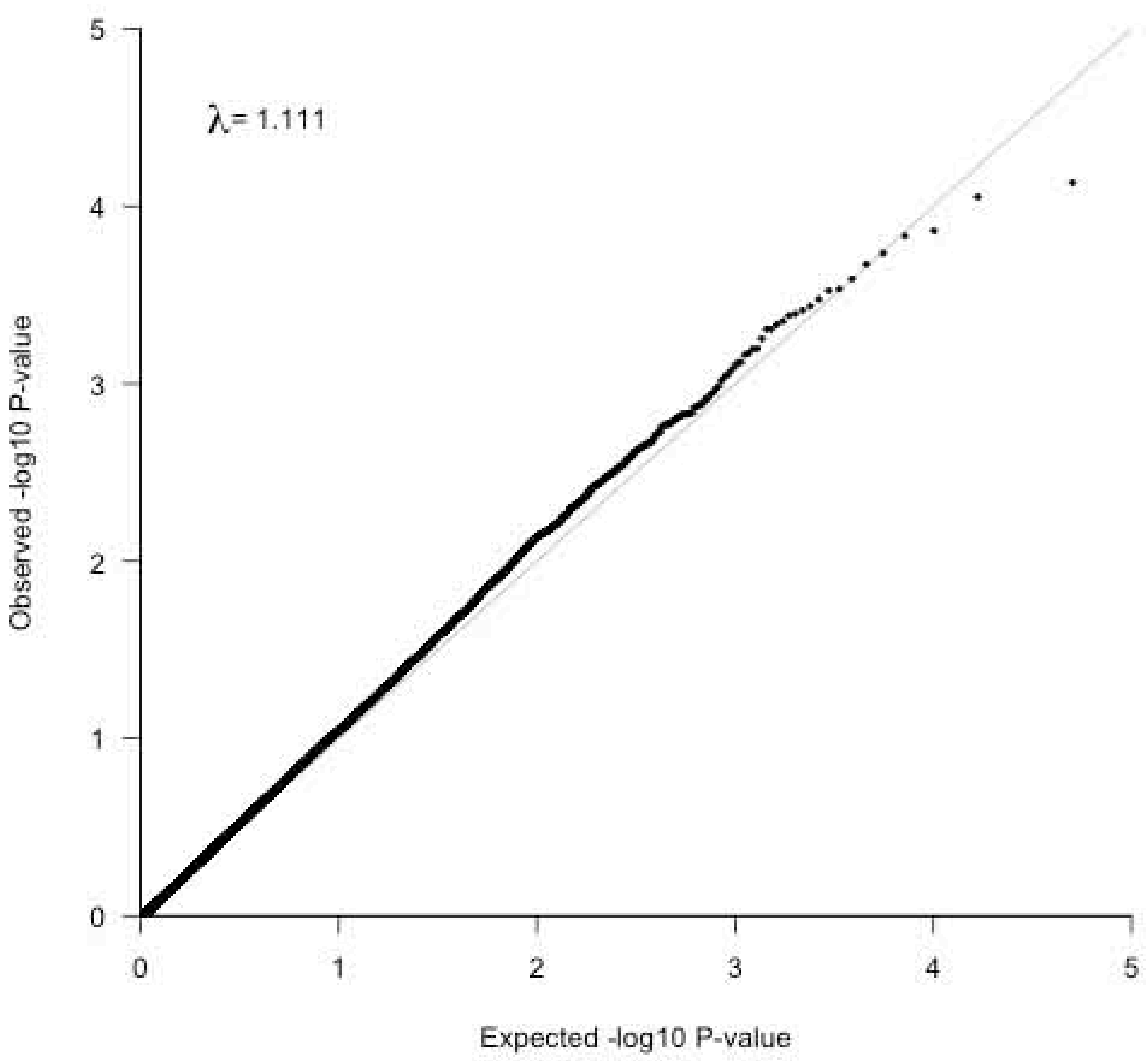

Spain1
λ= 1.000
Observed -log10 P-value
0
1
2
3
4
Expected -log10 P-value
0
1
2
3
4
5


UK
λ= 1.044
Observed -log10 P-value
0
2
4
6
8
10
12
14
Expected -log10 P-value
0
1
2
3
4
5

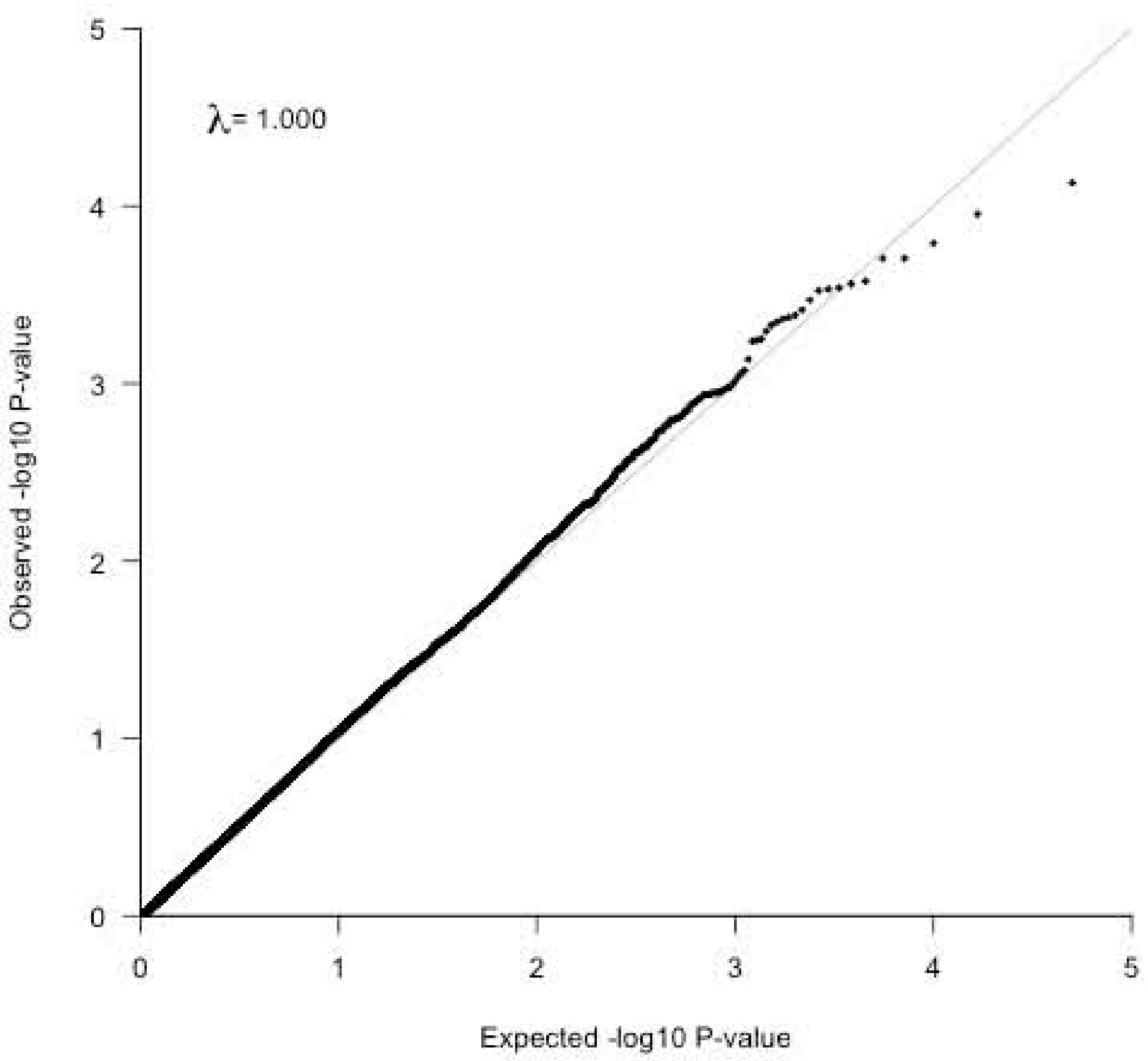
Corrona-i2b2



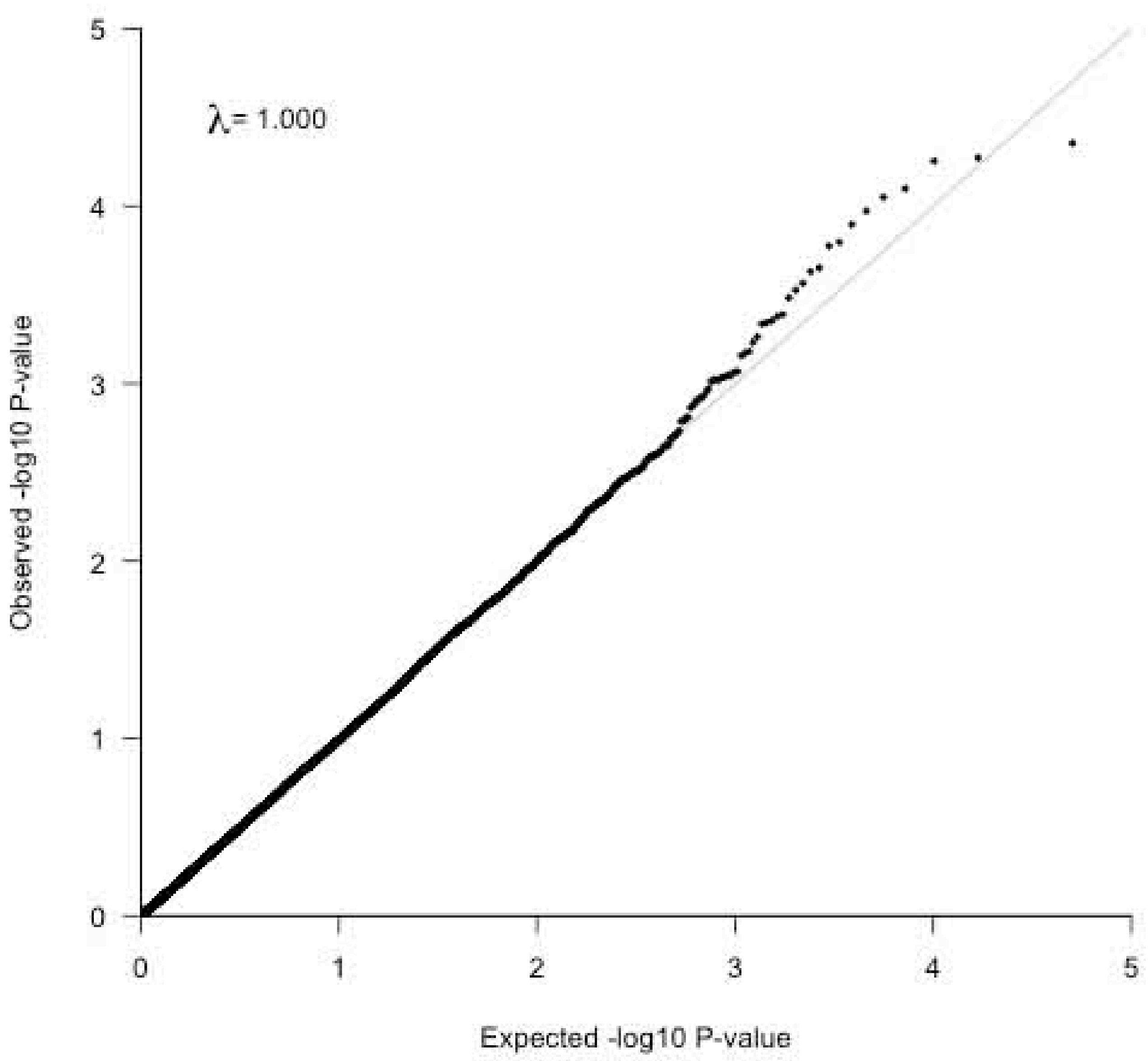
Spain



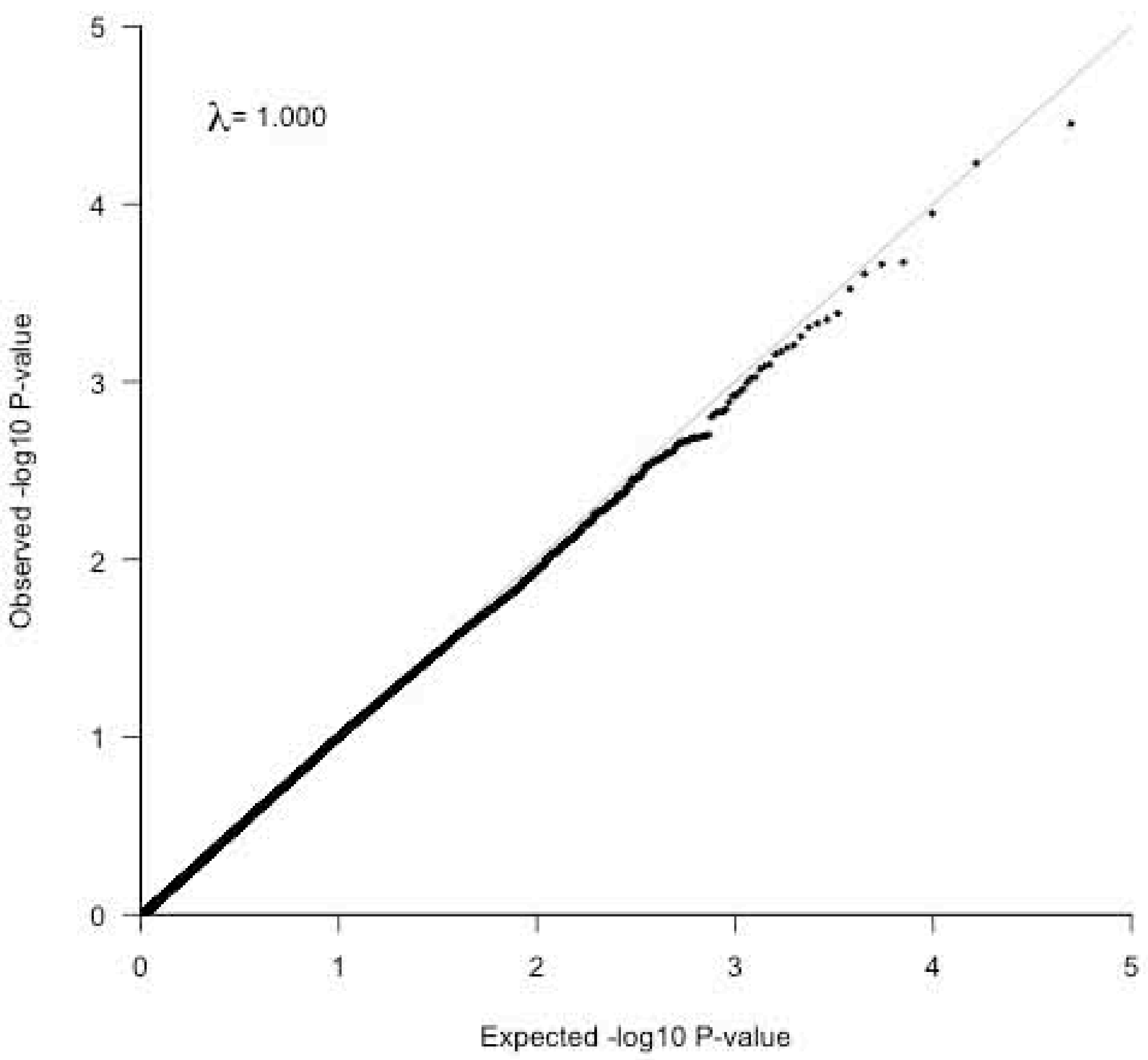
Netherlands



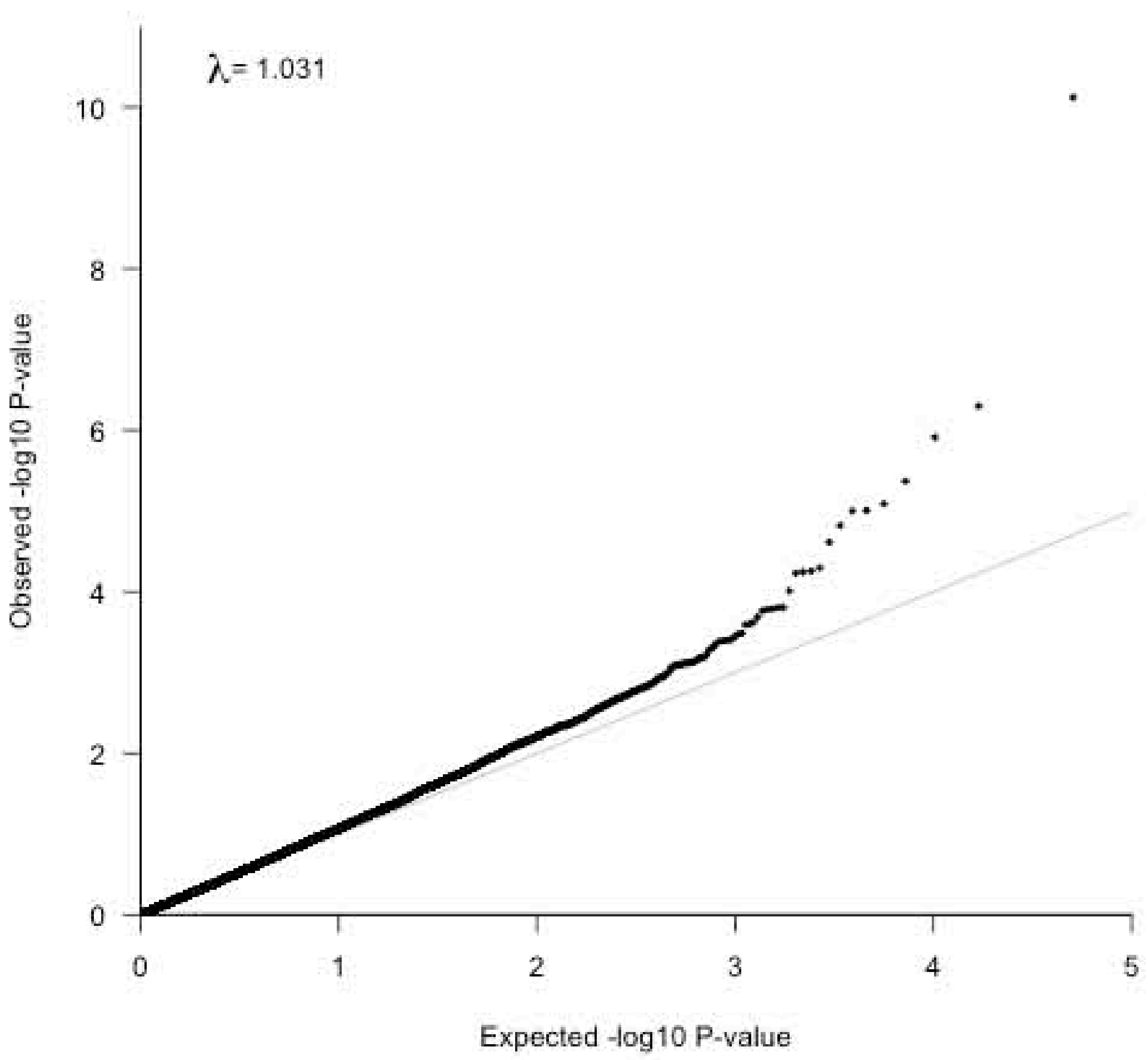
Swedish EIRA



Swedish Umea



UK



US