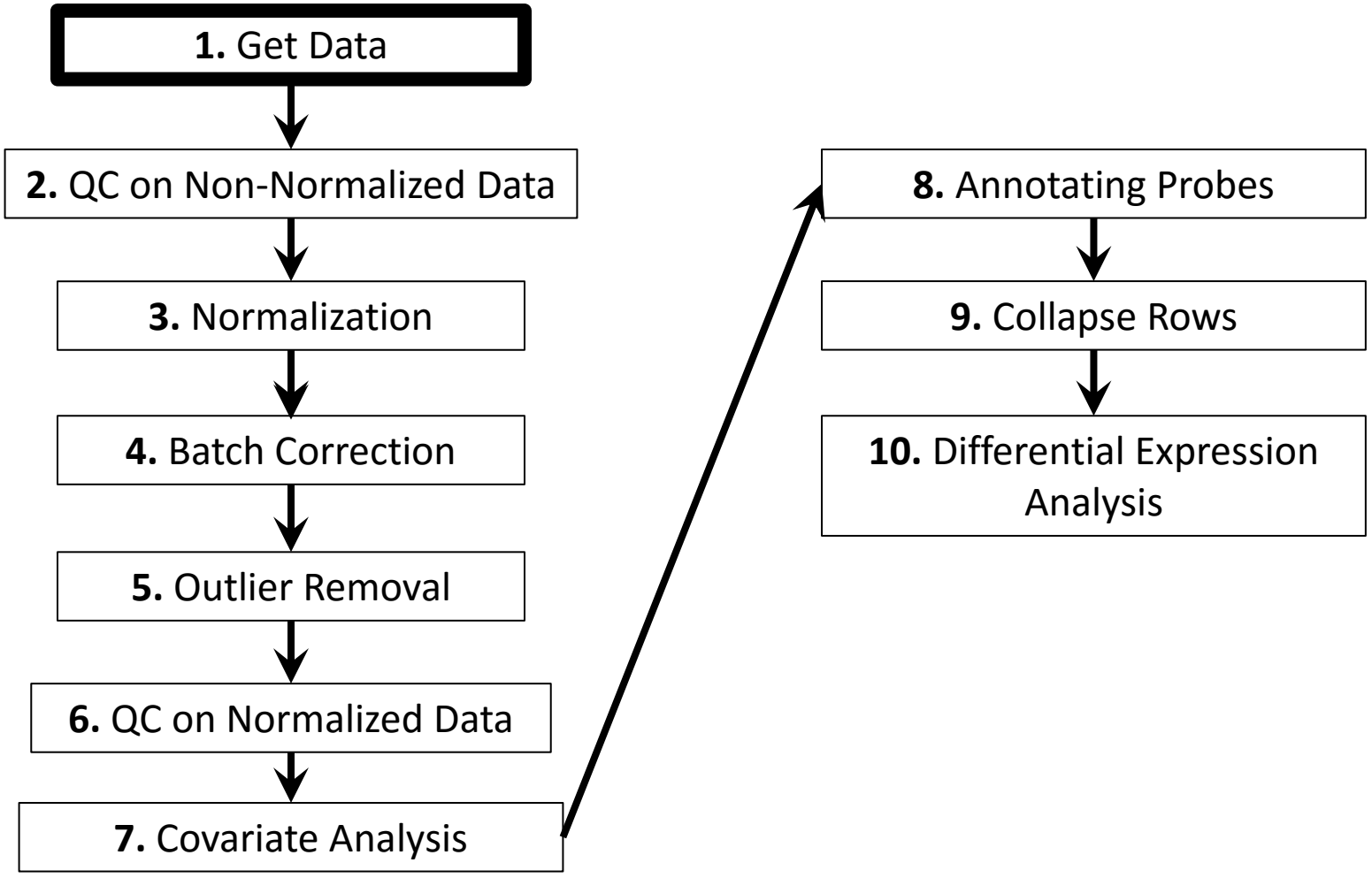
Affymetrix Microarray Tutorial

Accompanying Slides

UCLA ICNN

Overview


1. Get Data
2. QC on Non-Normalized Data
3. Normalization
4. Batch Correction
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8. Annotating Probes
9. Collapse Rows
10. Differential Expression Analysis

1. Get Data

datExpr Basic

Probe ↓ Sample →	Sample 1	Sample 2	Etc…
Probe A	3	4	
Probe B	2	8	
Etc….			

– Note that expression numbers are not representative of real data in this example

1. Get Data

datMeta Basic

Sample ↓ Category →	Label	Gender	Location	Etc…
Sample 1	Label A	Male	PreFrontal Cortex	
Sample 2	Label B	Female	Putamen	
Etc…				

datMeta Example

Sample	GSM	Group	Region
N1A Normal-frontal	GSM329660	CTL	FCX
N1C Normal-hippocampus	GSM329661	CTL	HPC
N1B Normal-cerebellum	GSM329662	CTL	CBL

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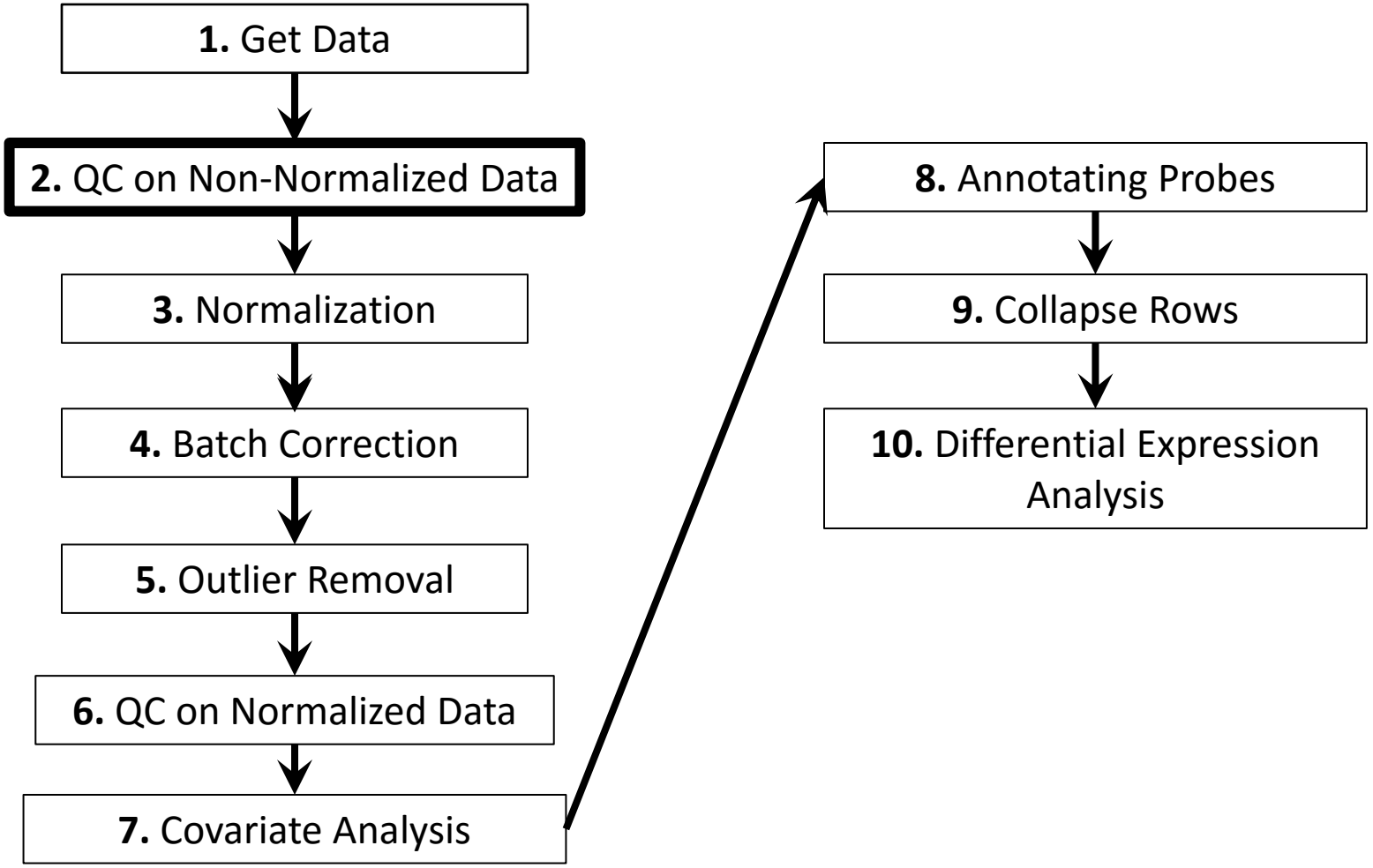
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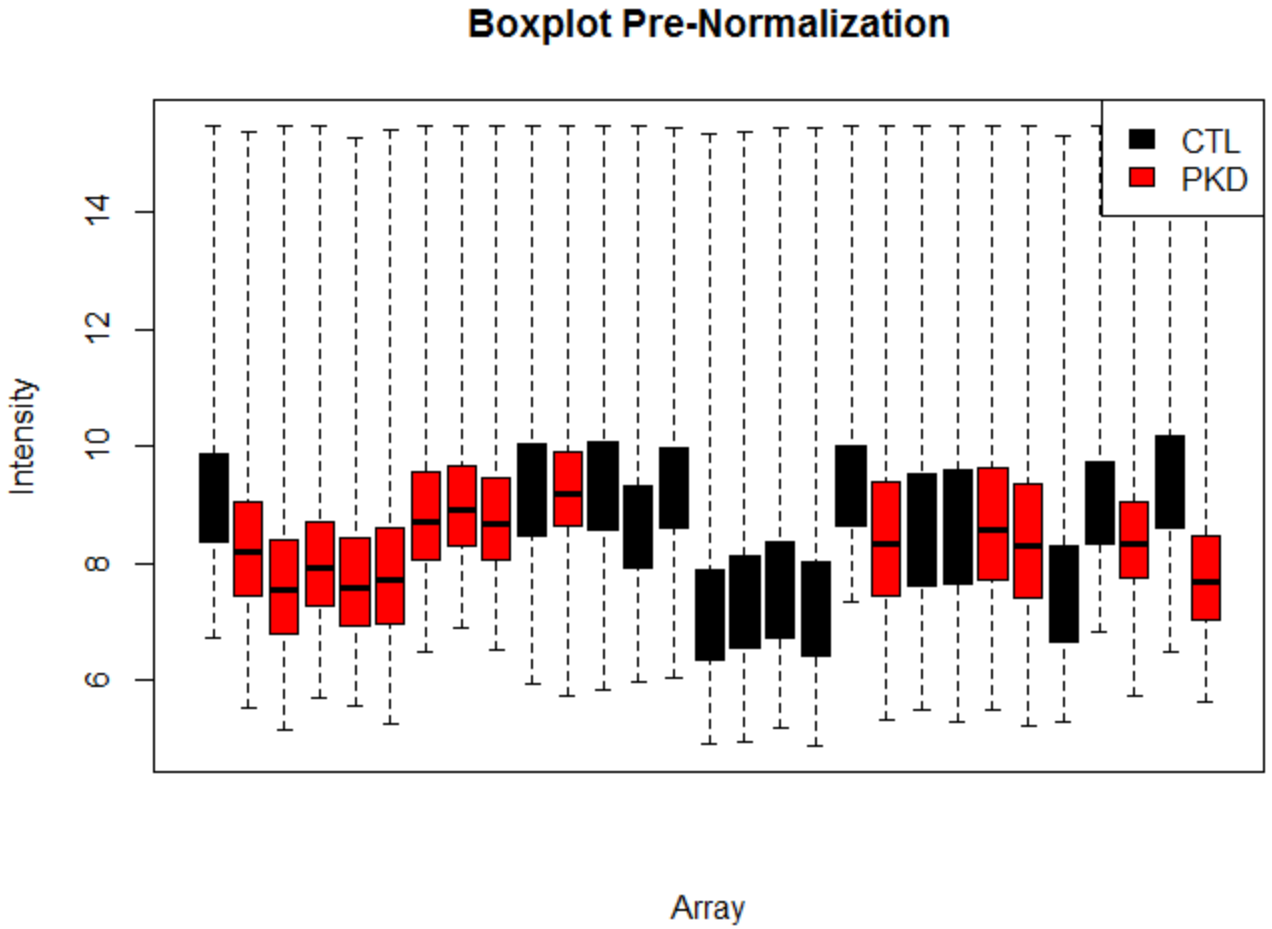
2. QC on Non-Normalized Data



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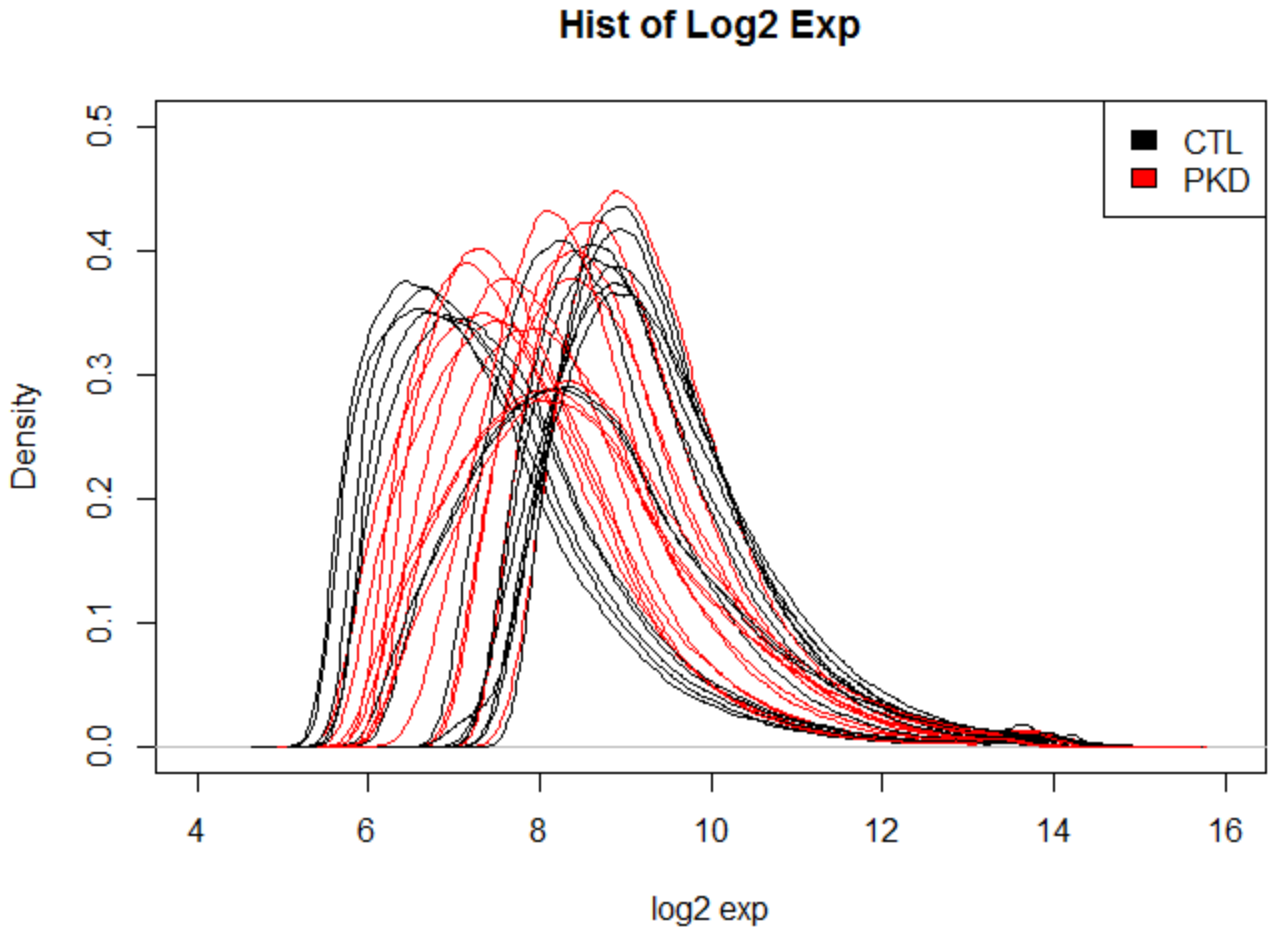

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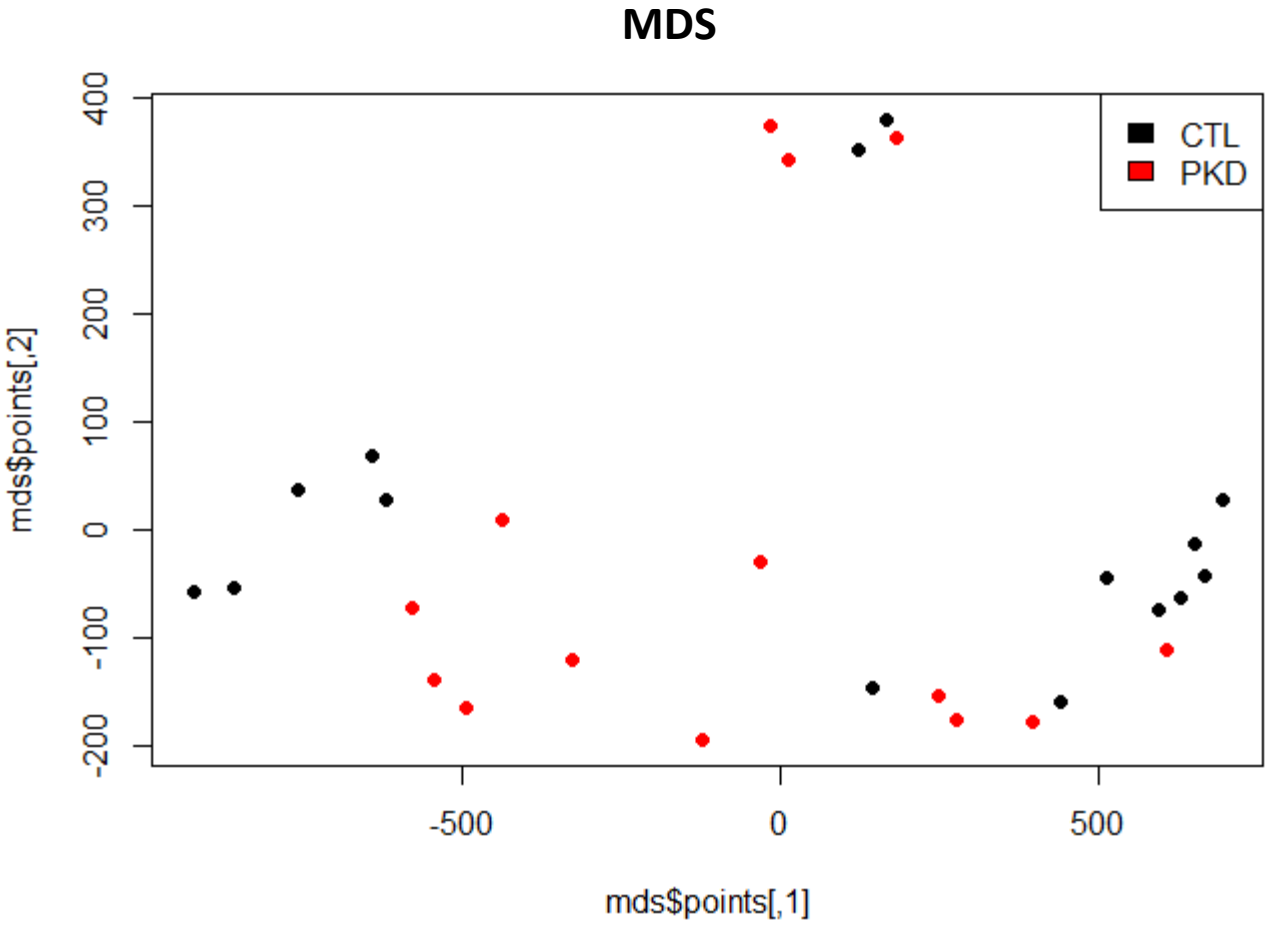

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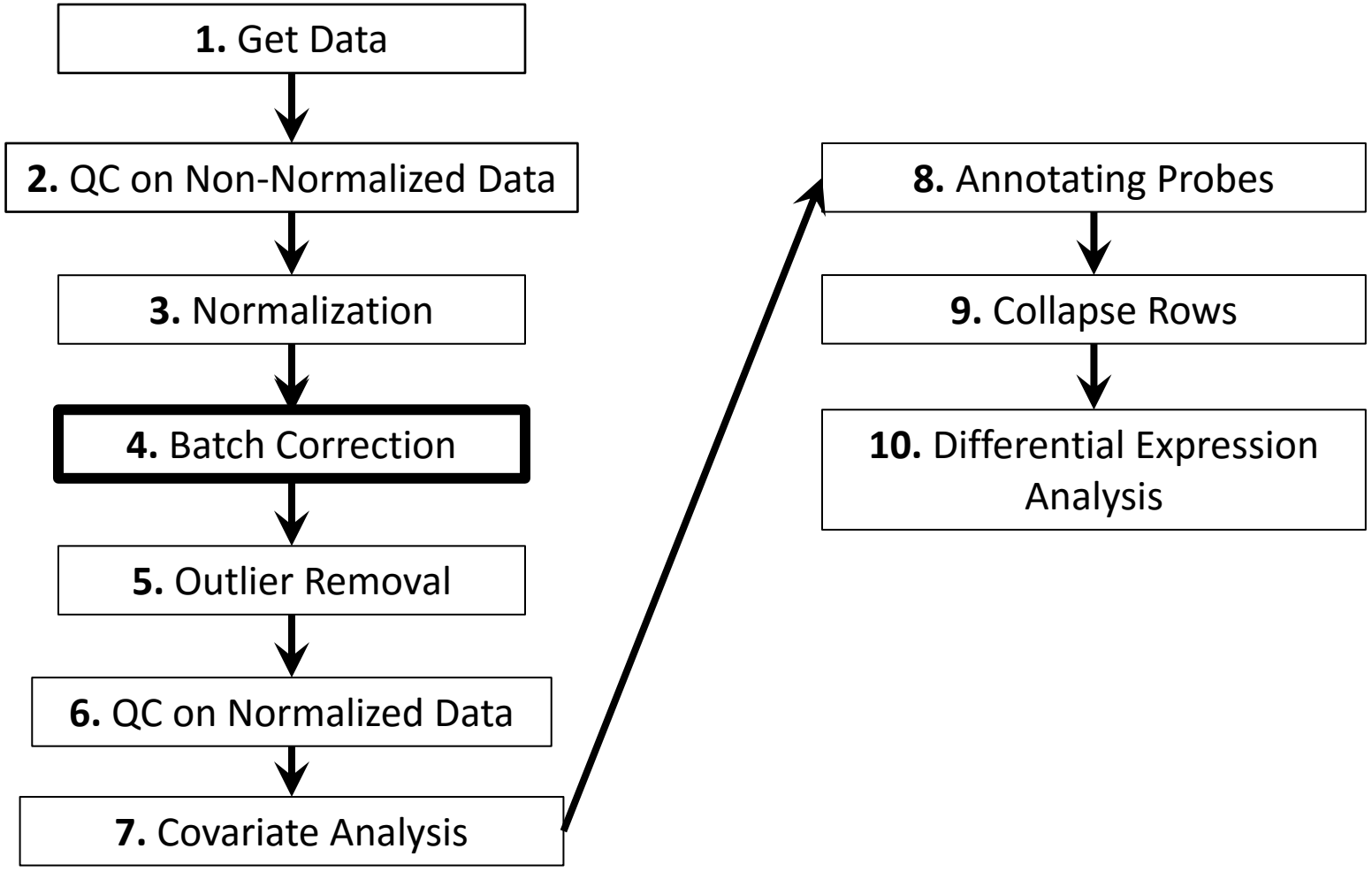
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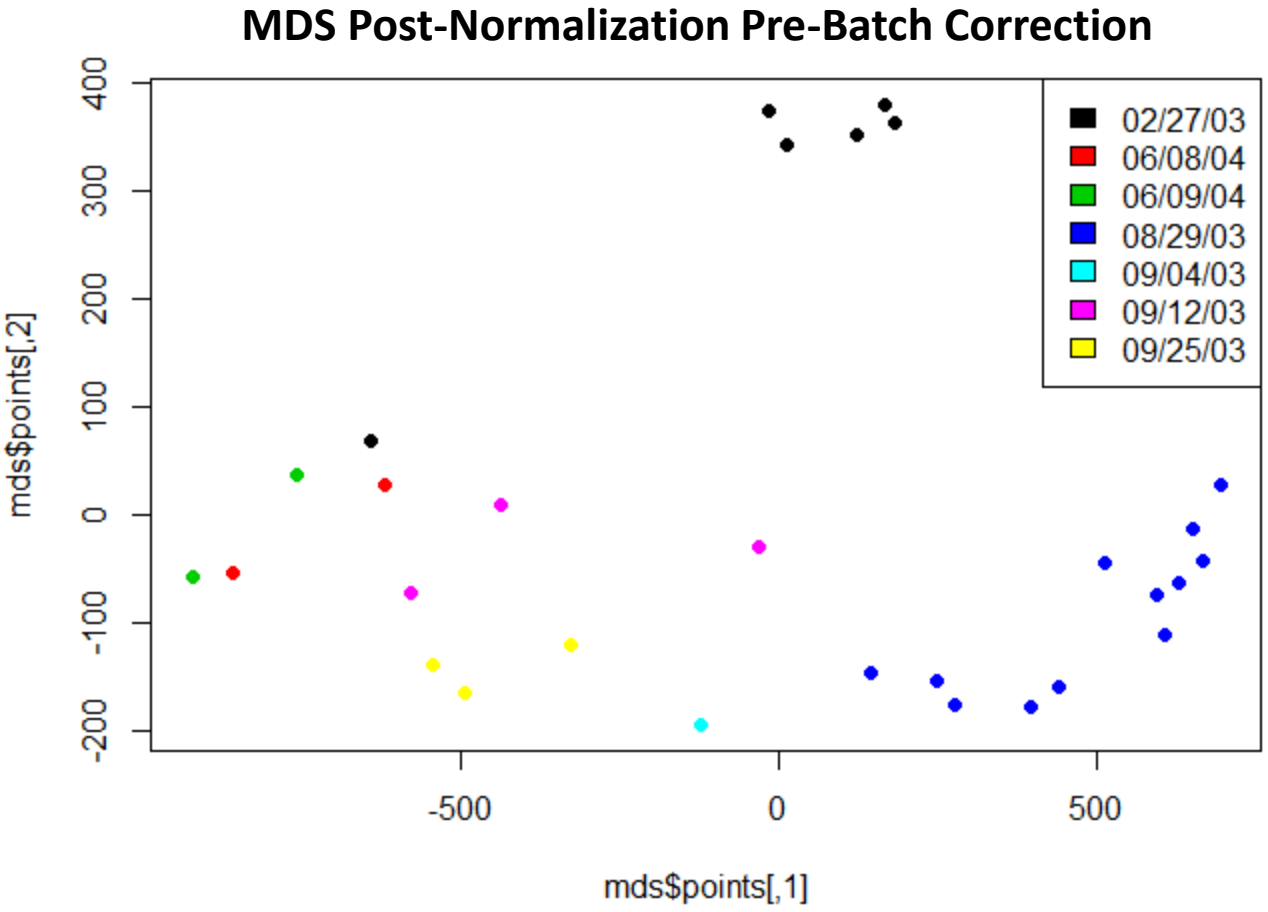

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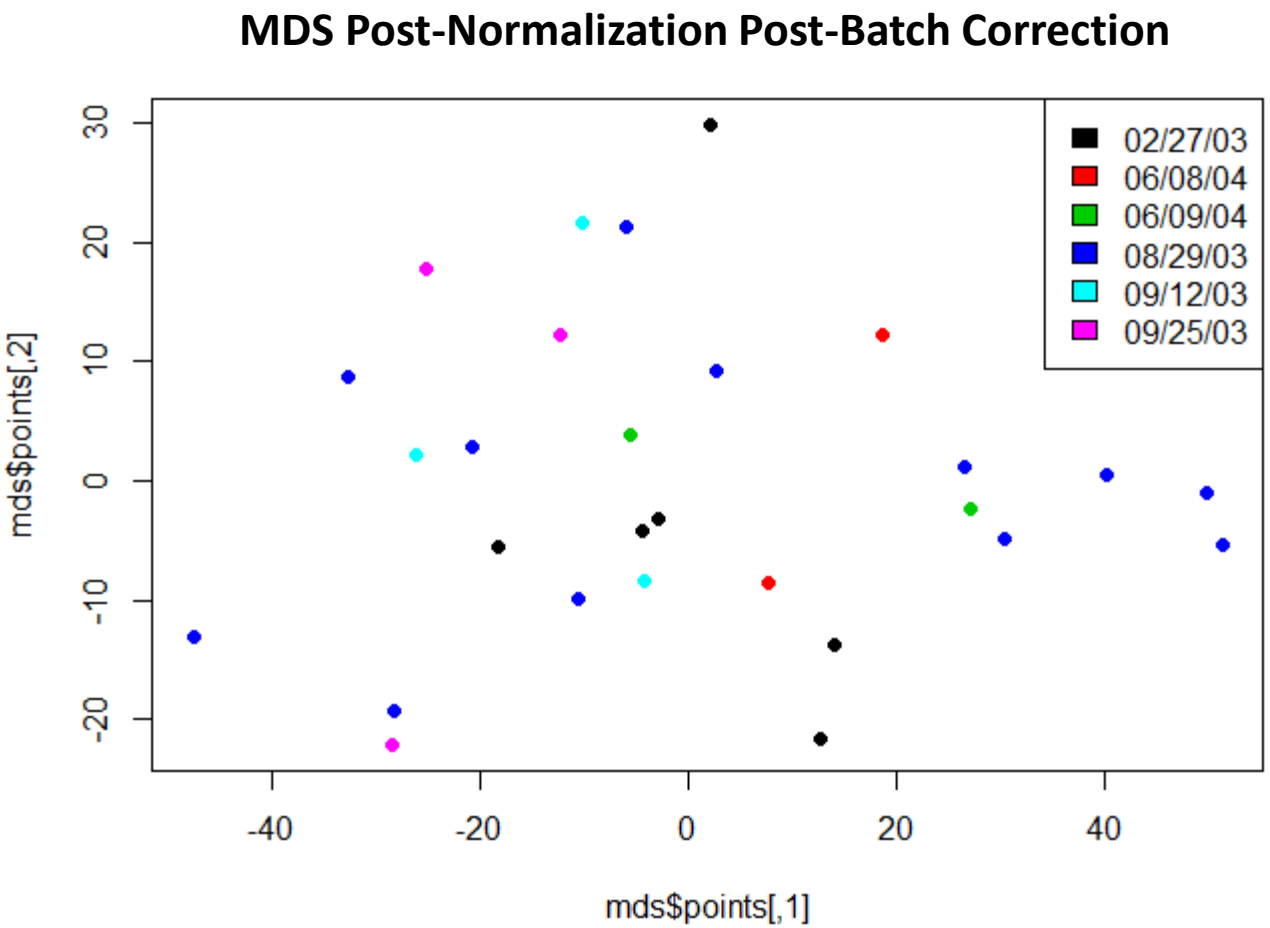

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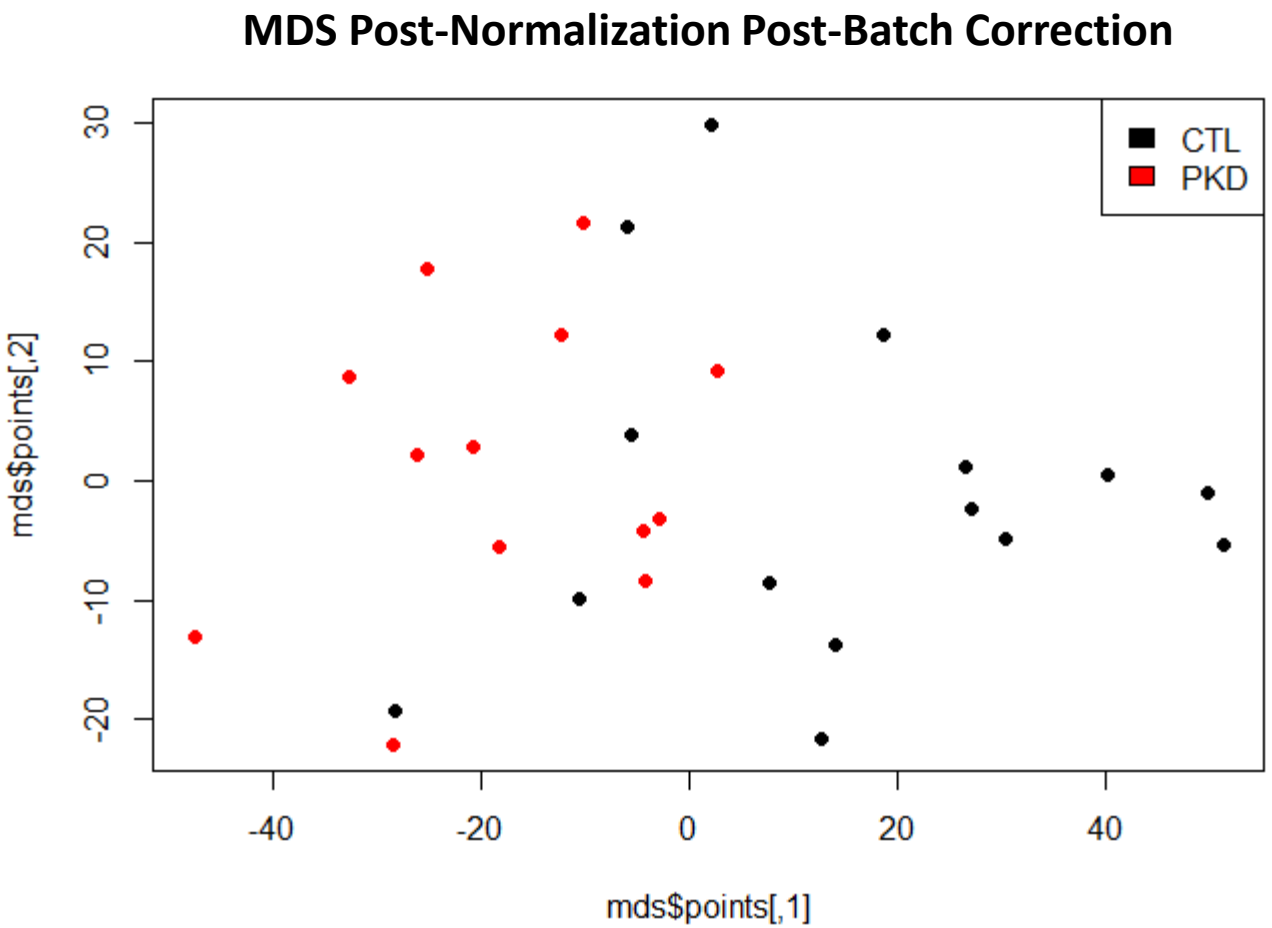

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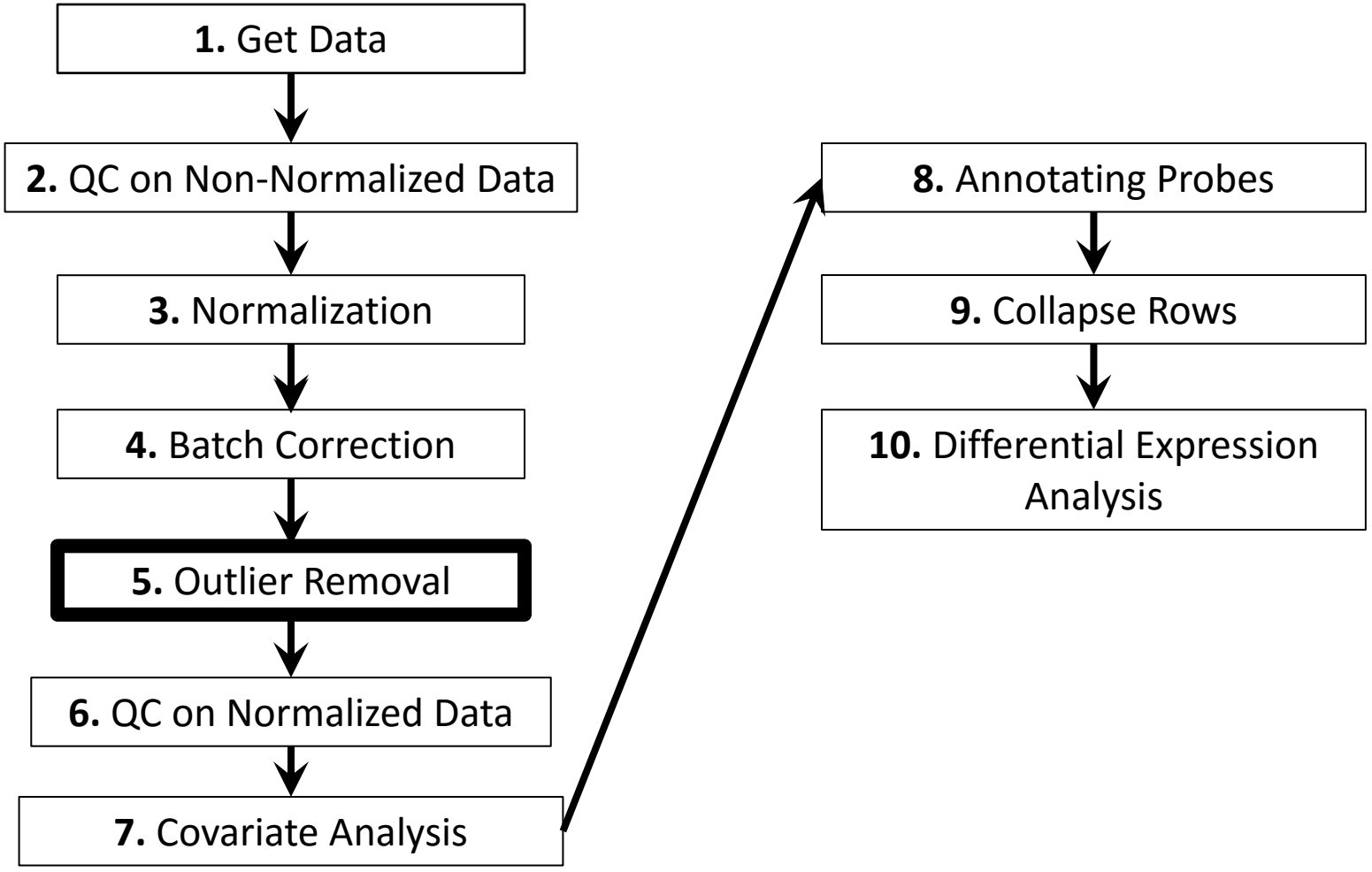
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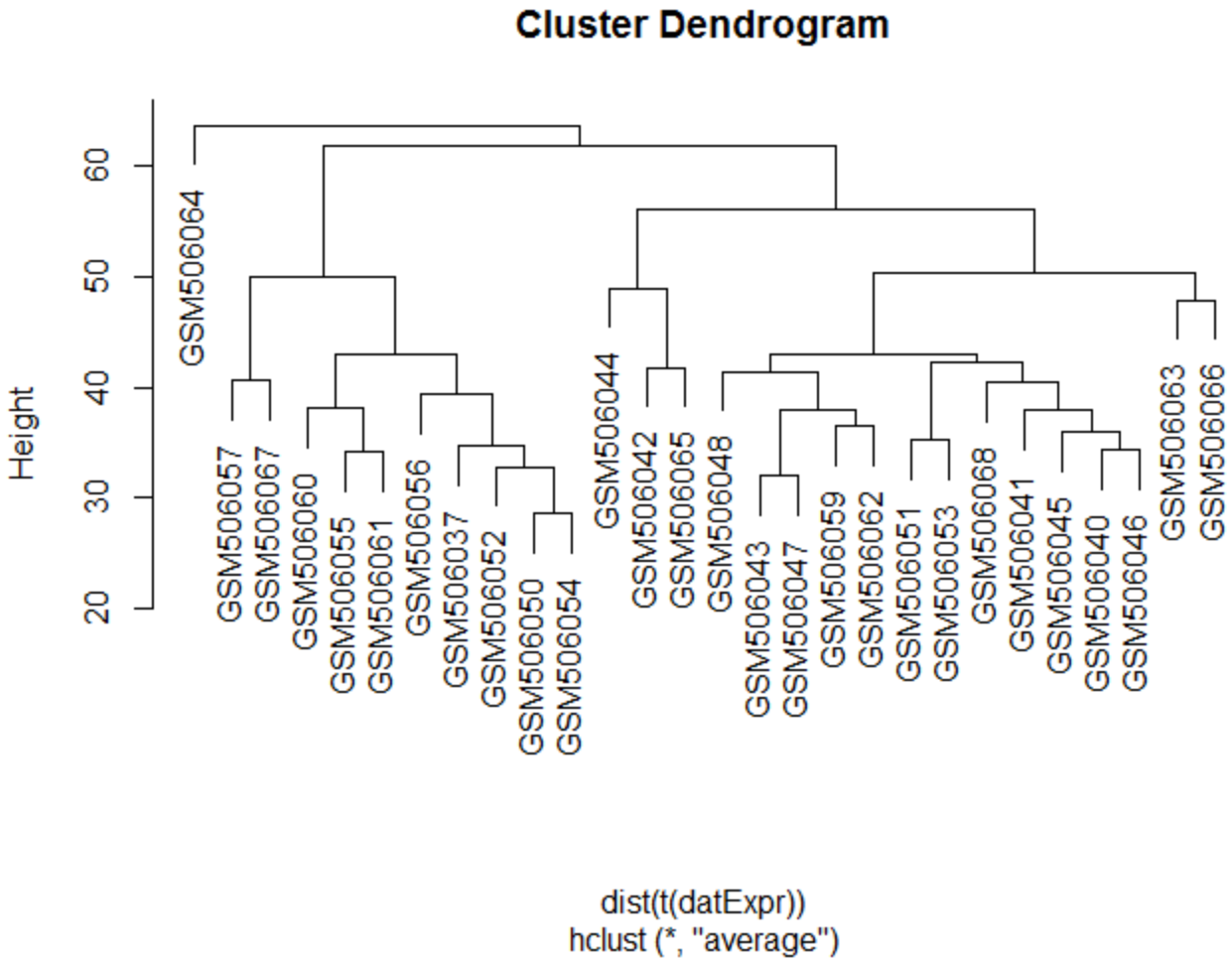
5. Outlier Removal



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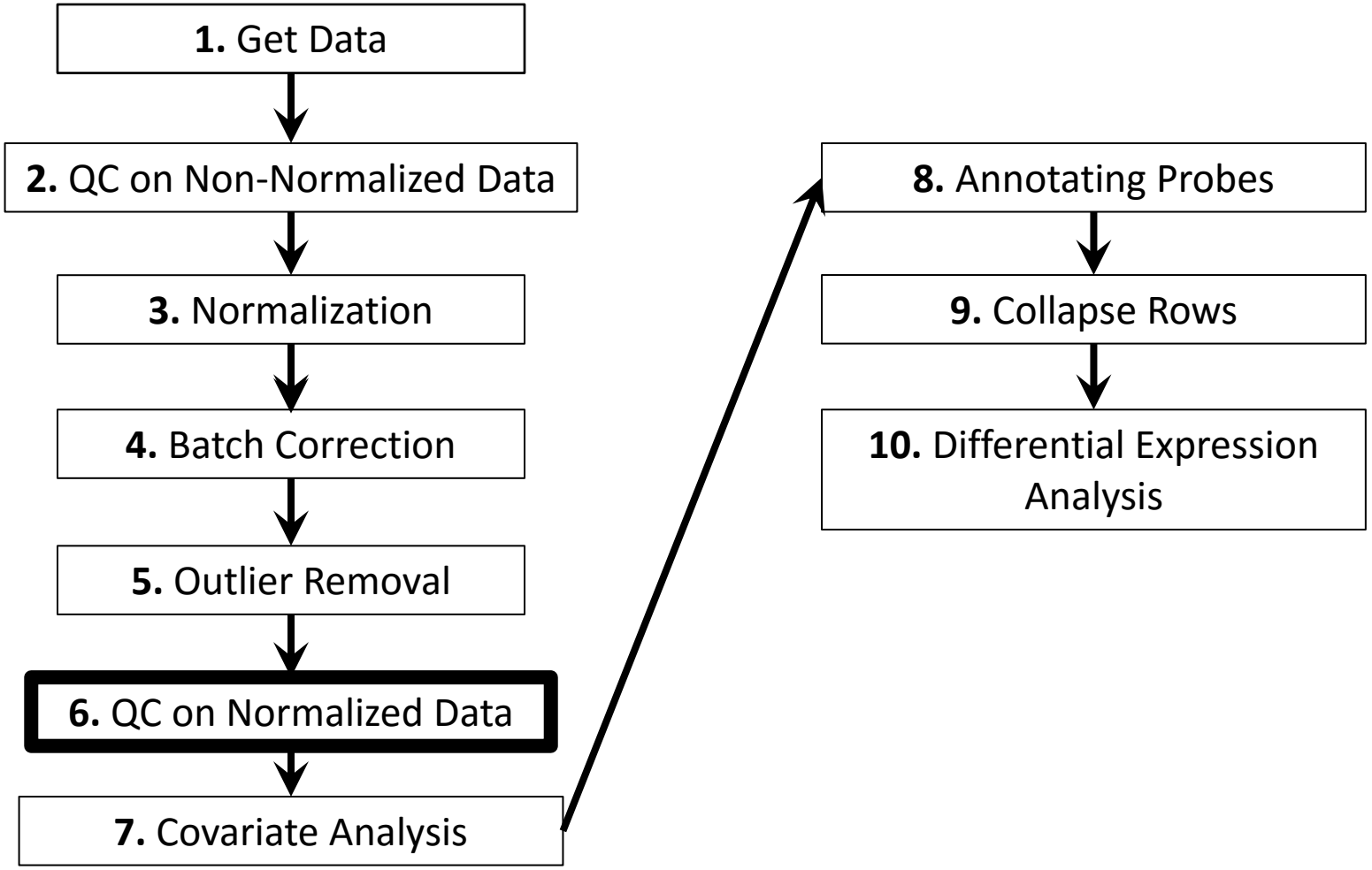
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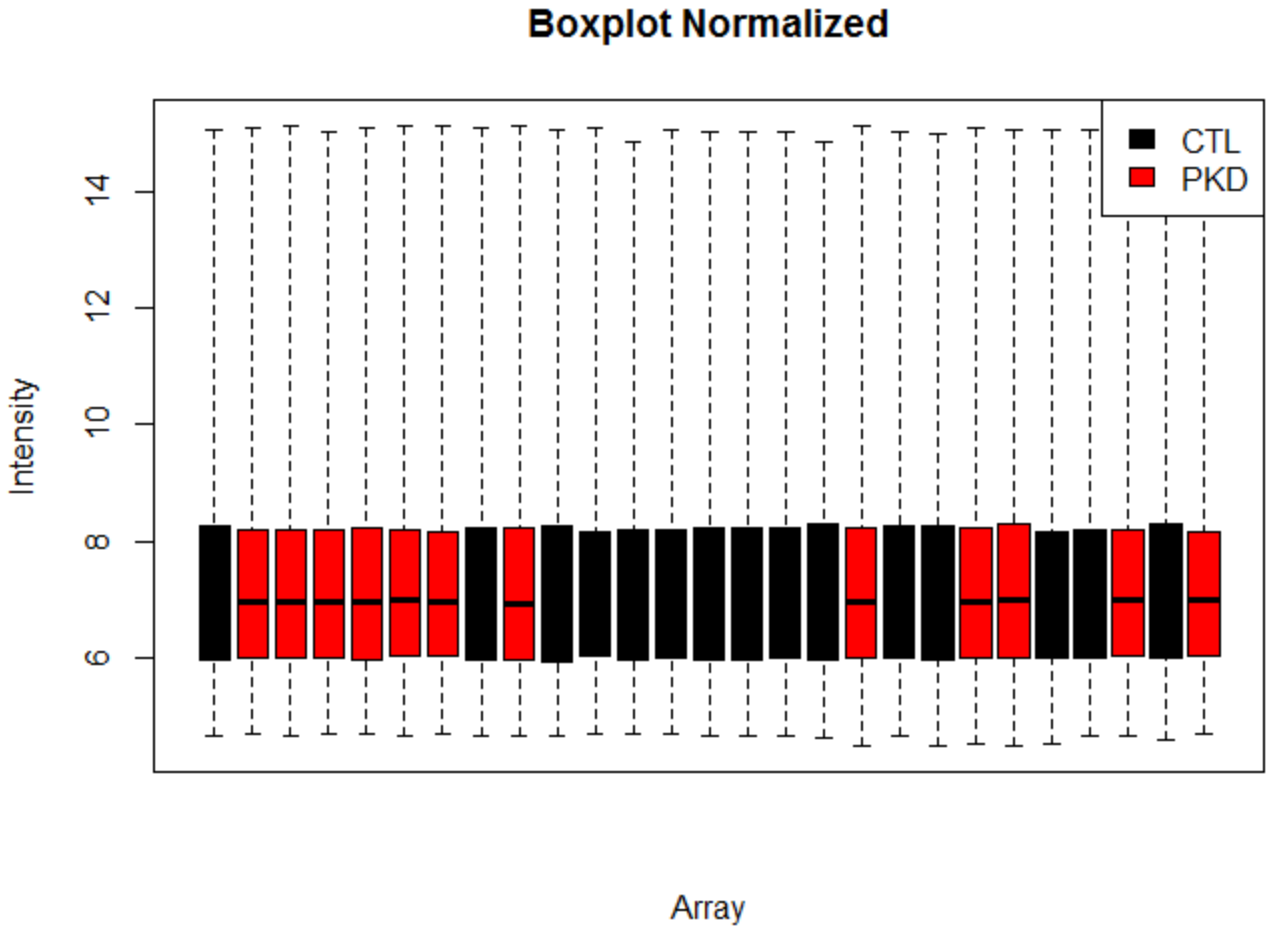

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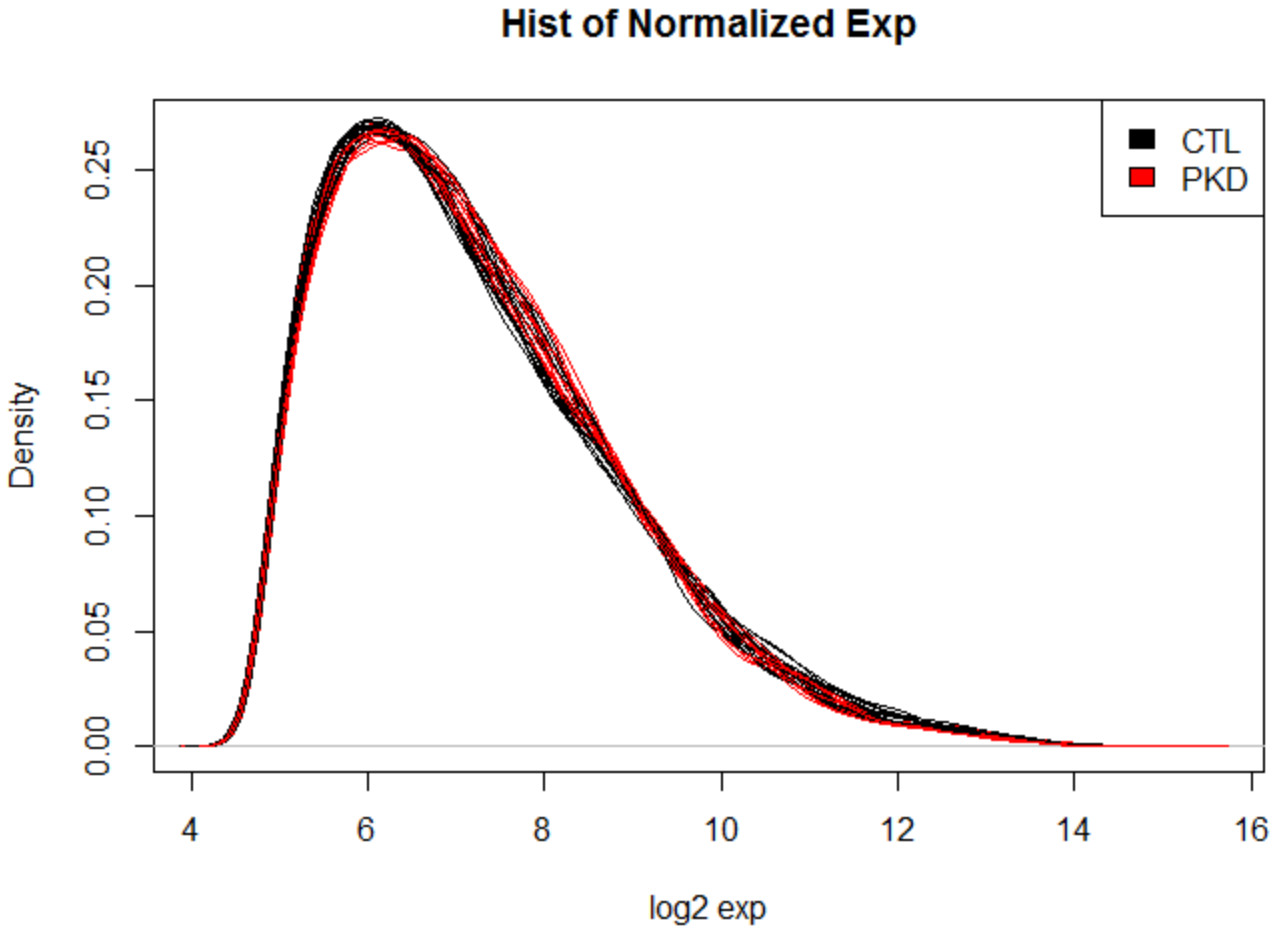

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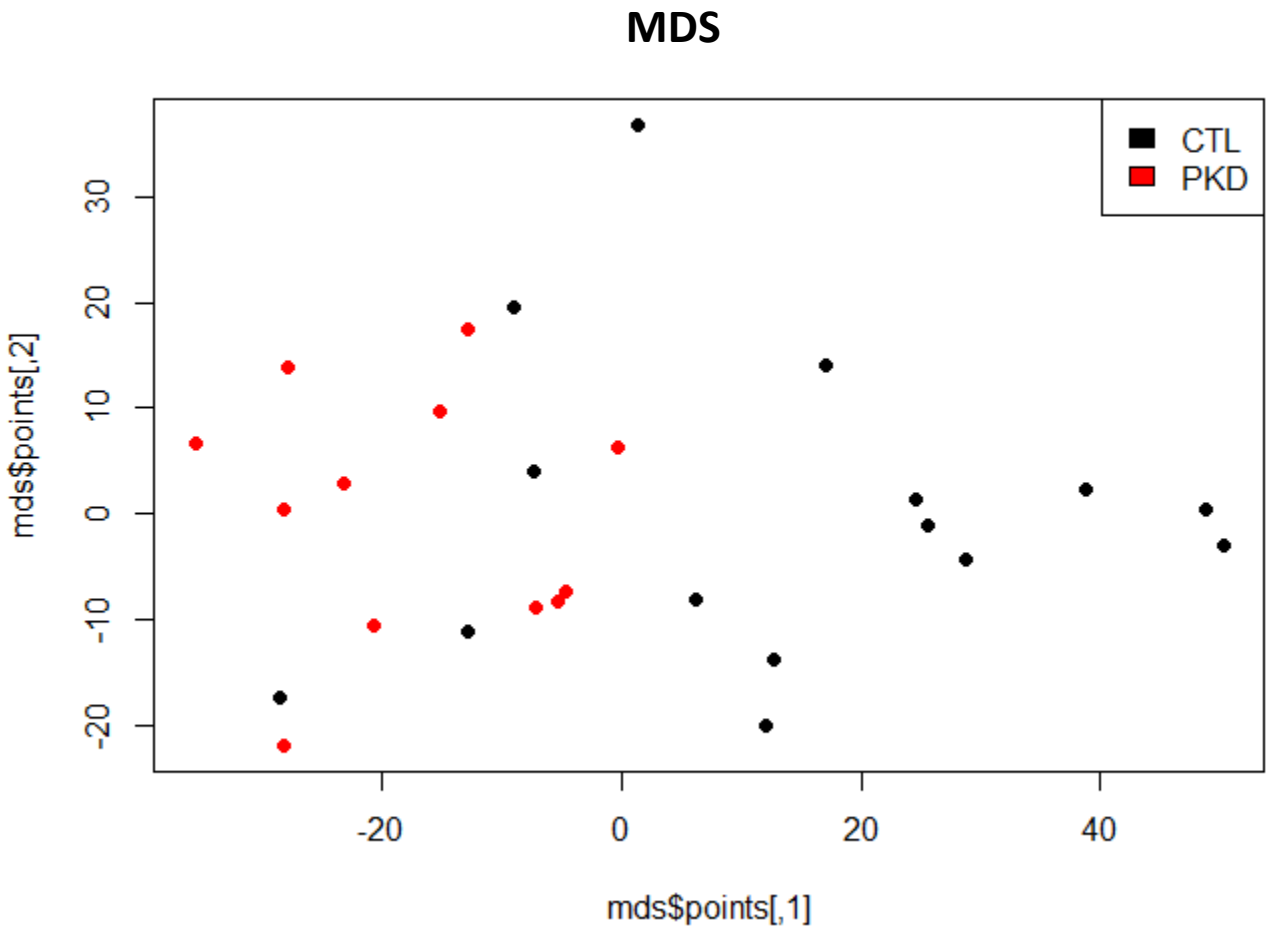

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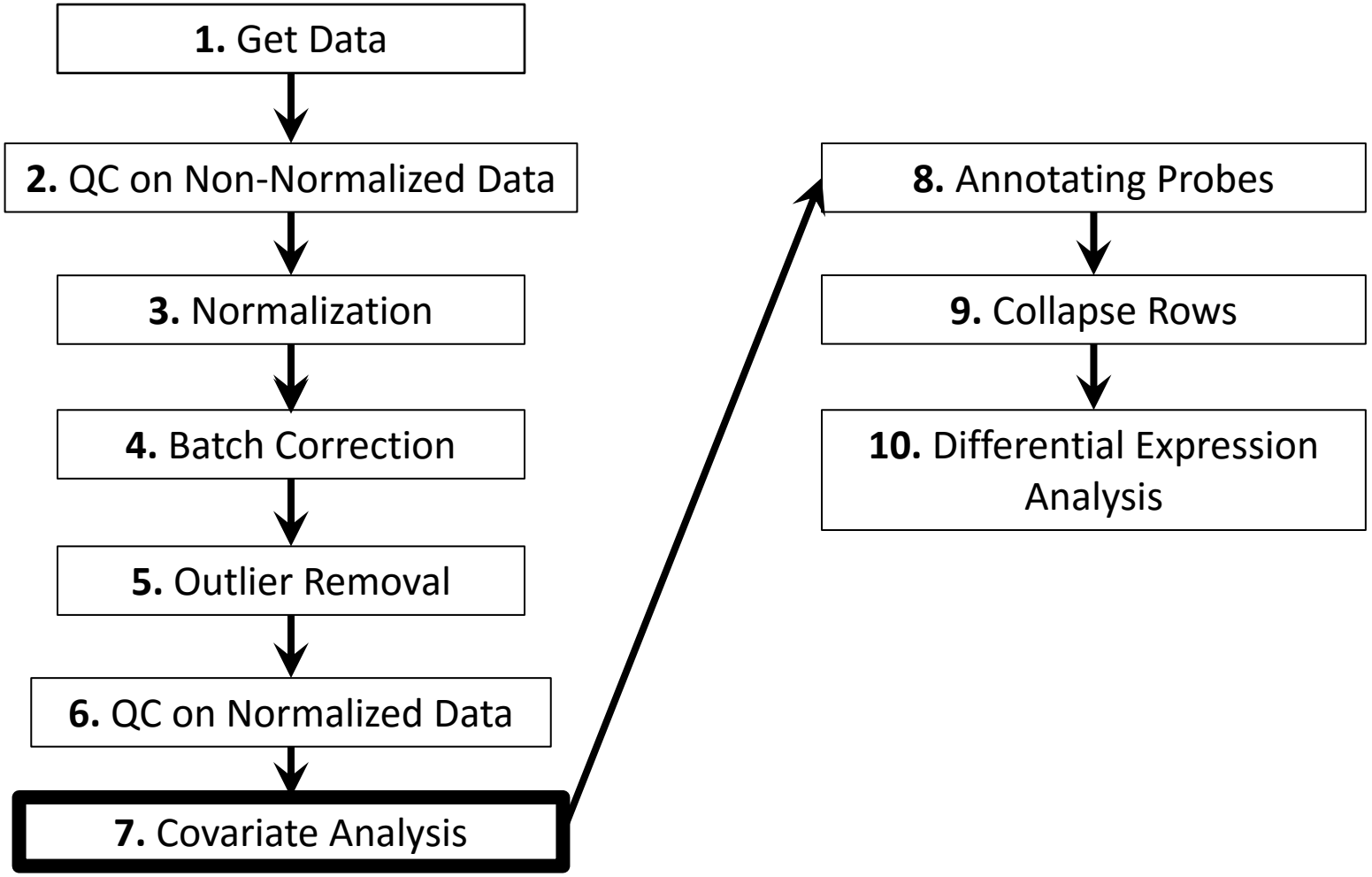
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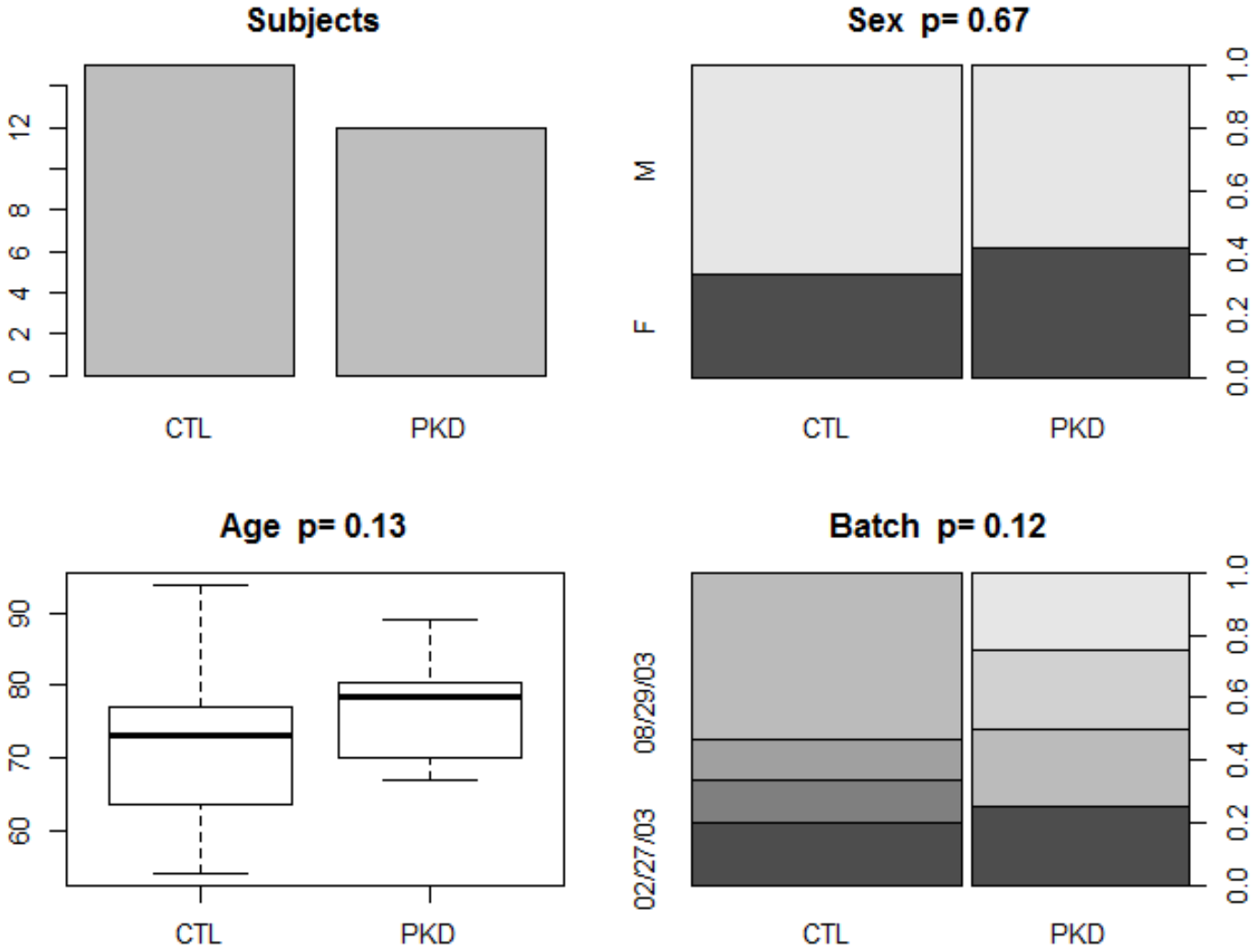

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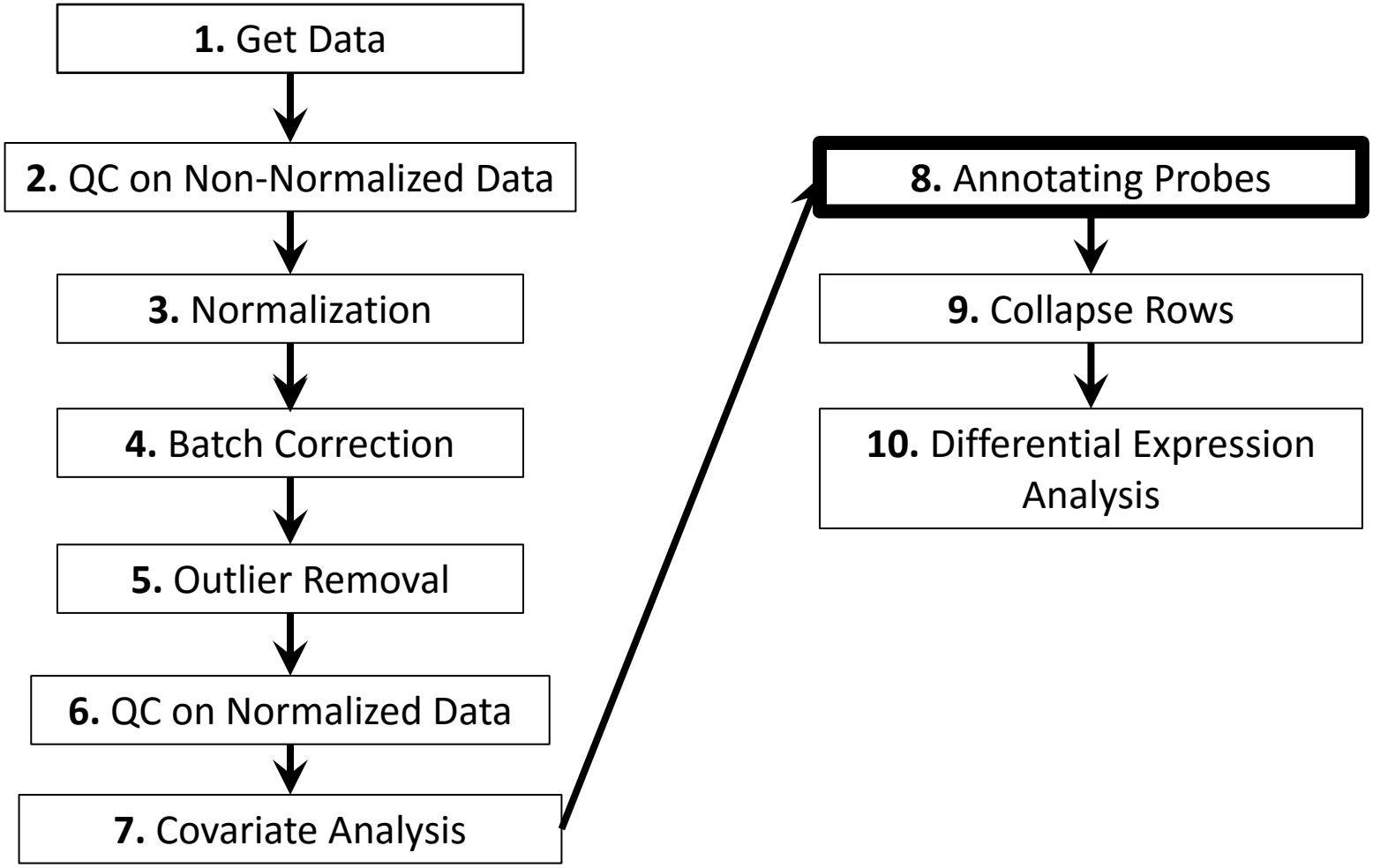
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8. Annotating Probes

Example geneDat

Probe ↓ Identifier →	Affy_probe	Ensembl_ID	Etc…
209_at	209_at	ENS00001	
369_at	369_at	ENS00345	
Etc….			

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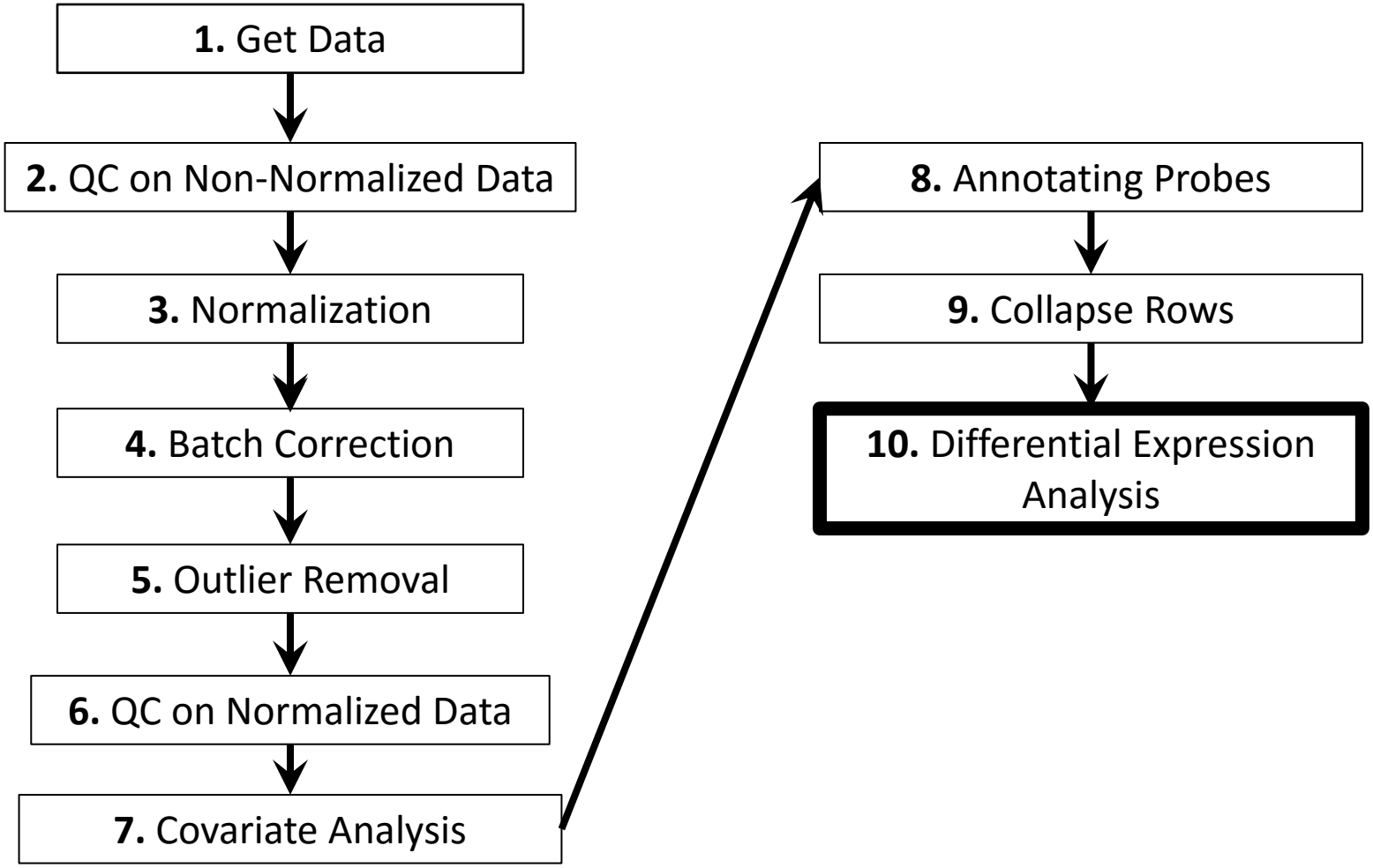
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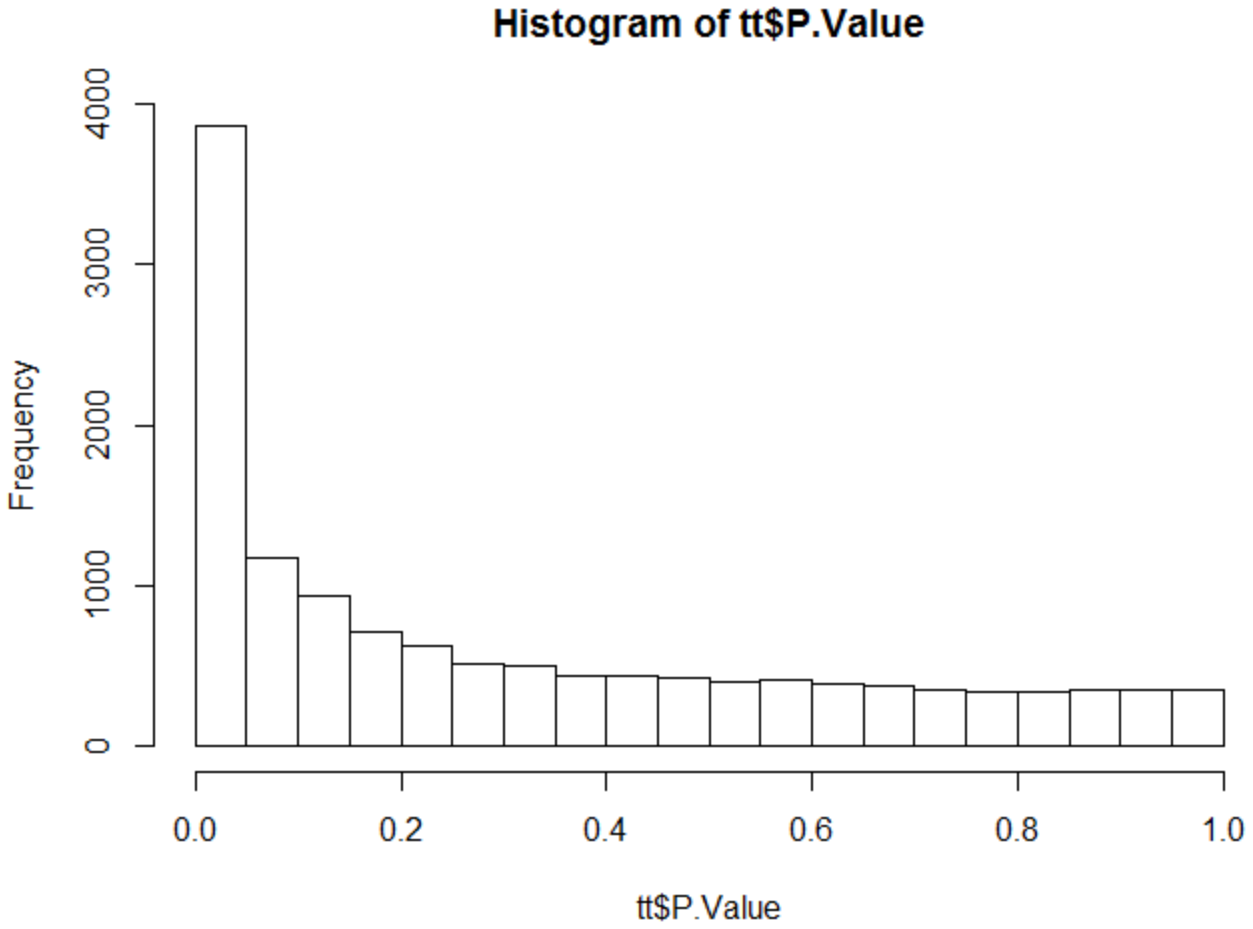
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