

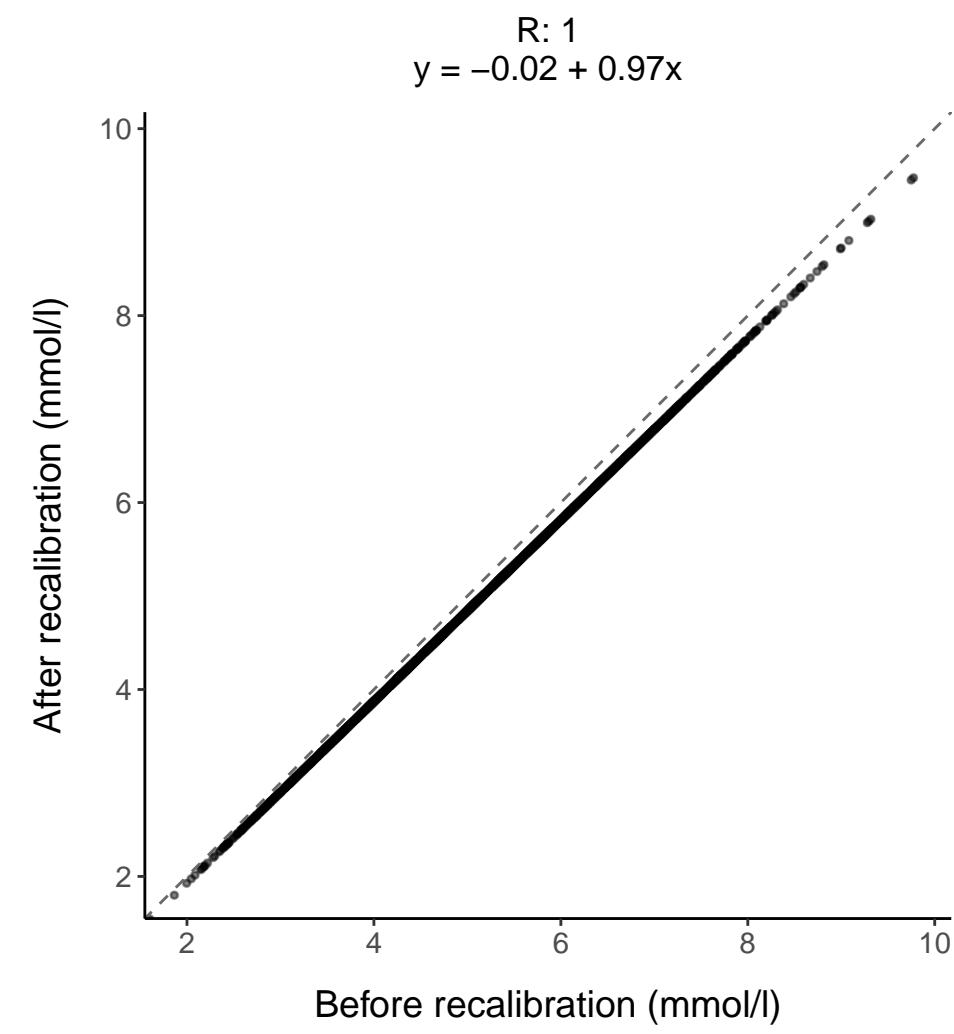
# Correlations between biomarker values before and after recalibration (phase 1, spectrometer 3)

Outliers  $4 \times \text{IQR}$  from median removed  
Nightingale Health Plc.

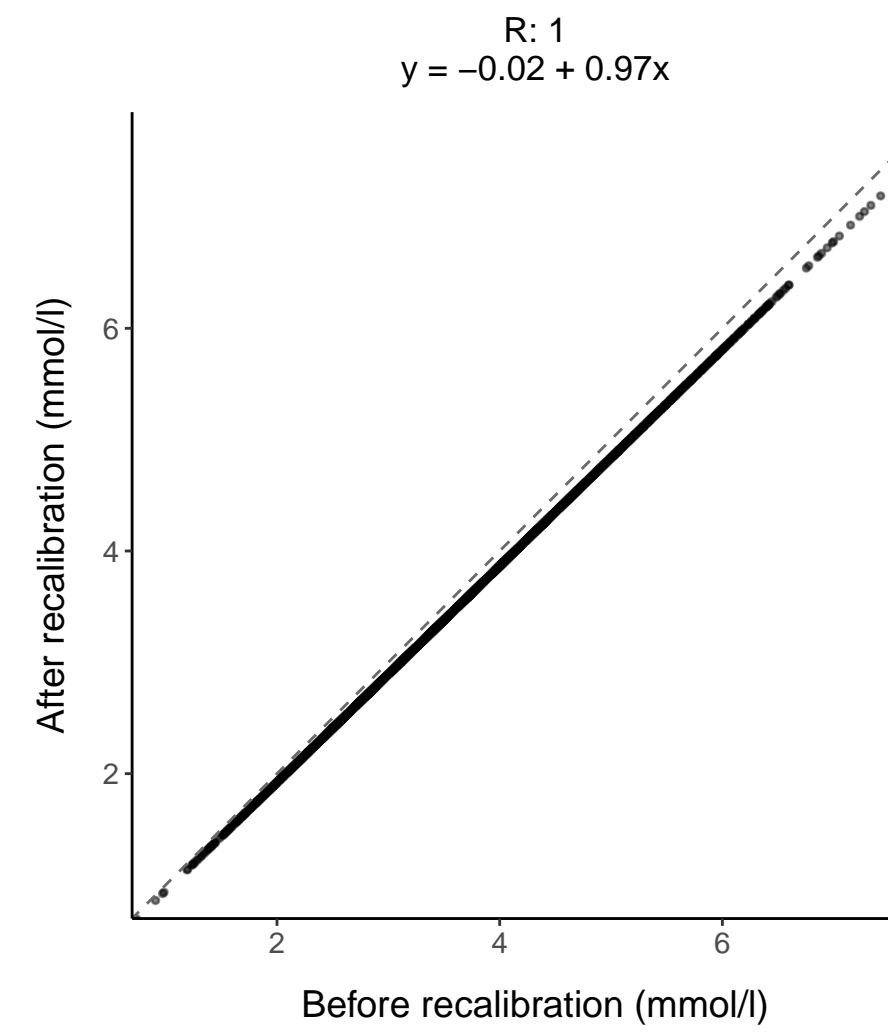
Outliers  $4 \times \text{IQR}$  from median removed  
Nightingale Health Plc.

## Cholesterol

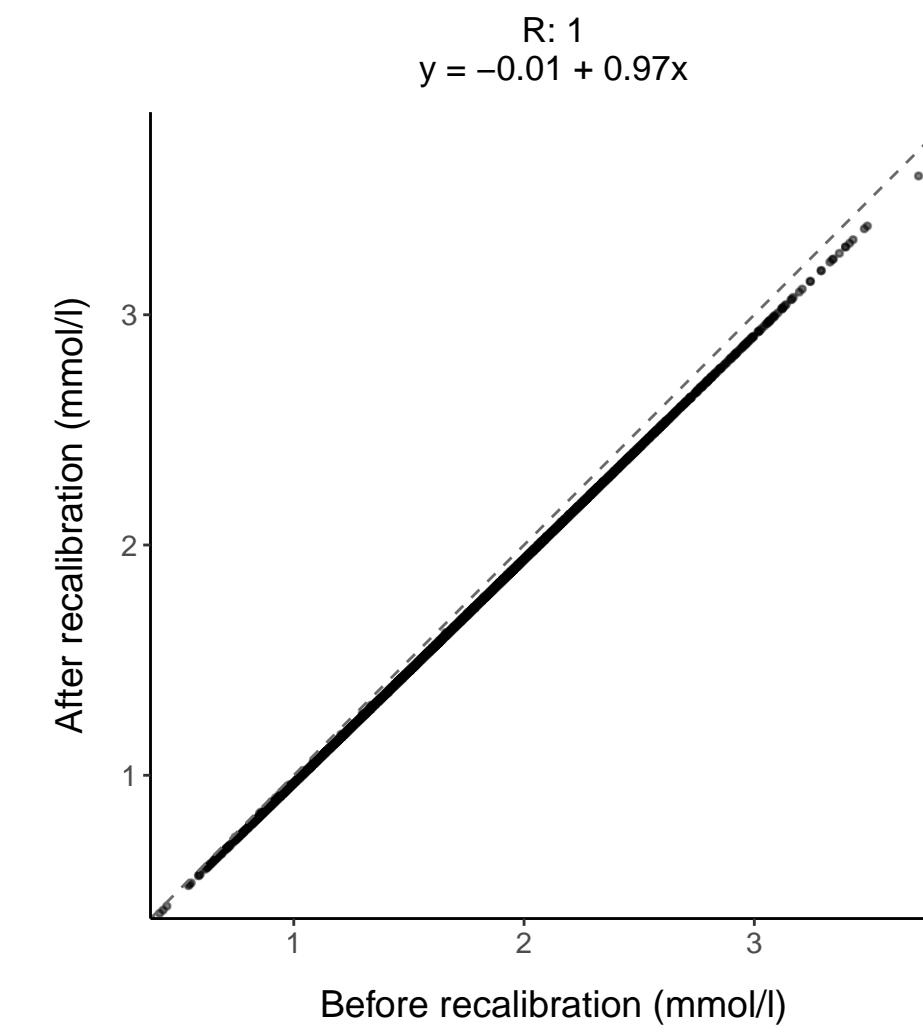
**Total\_C**



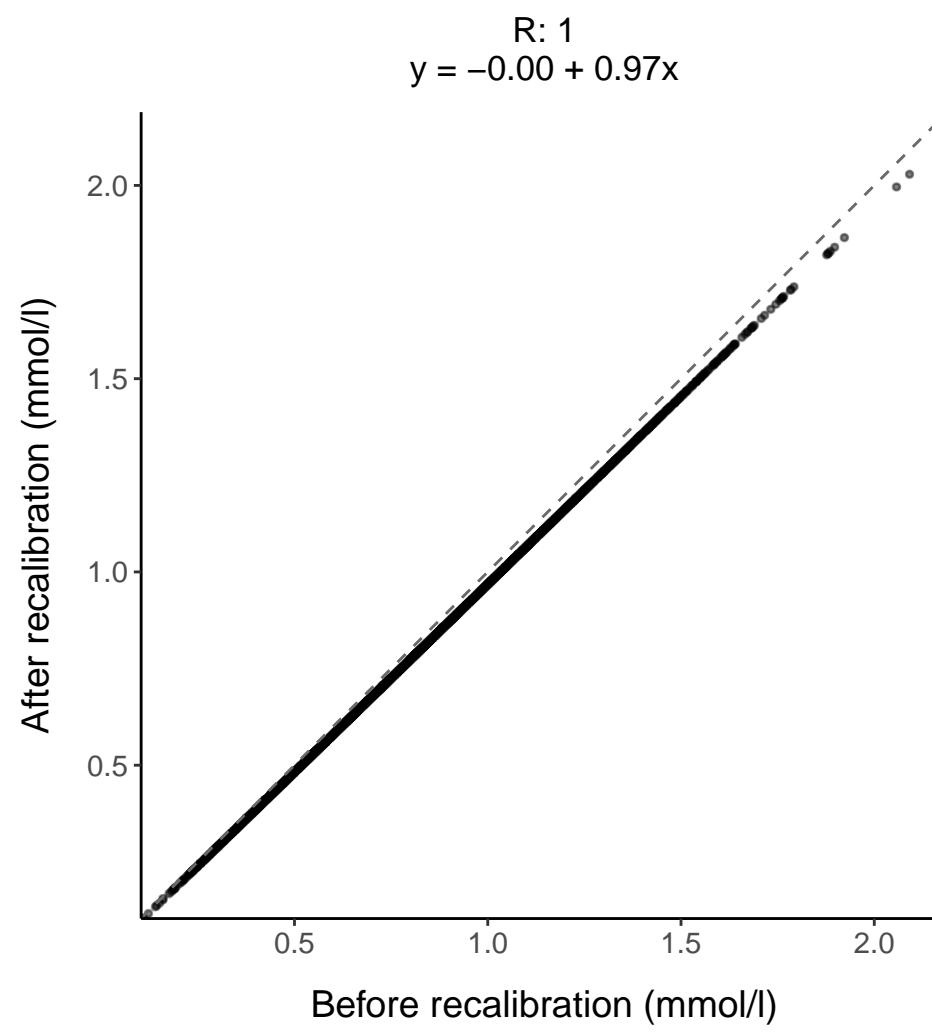
**non\_HDL\_C**



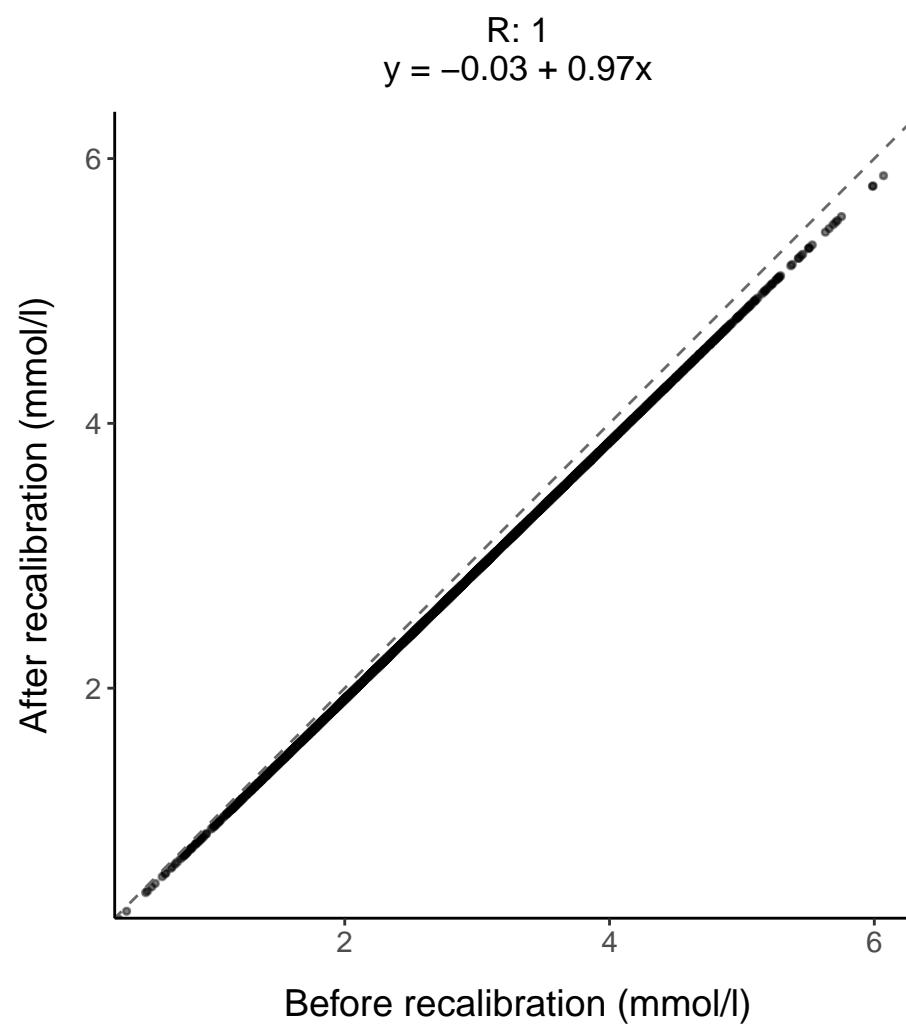
**Remnant\_C**



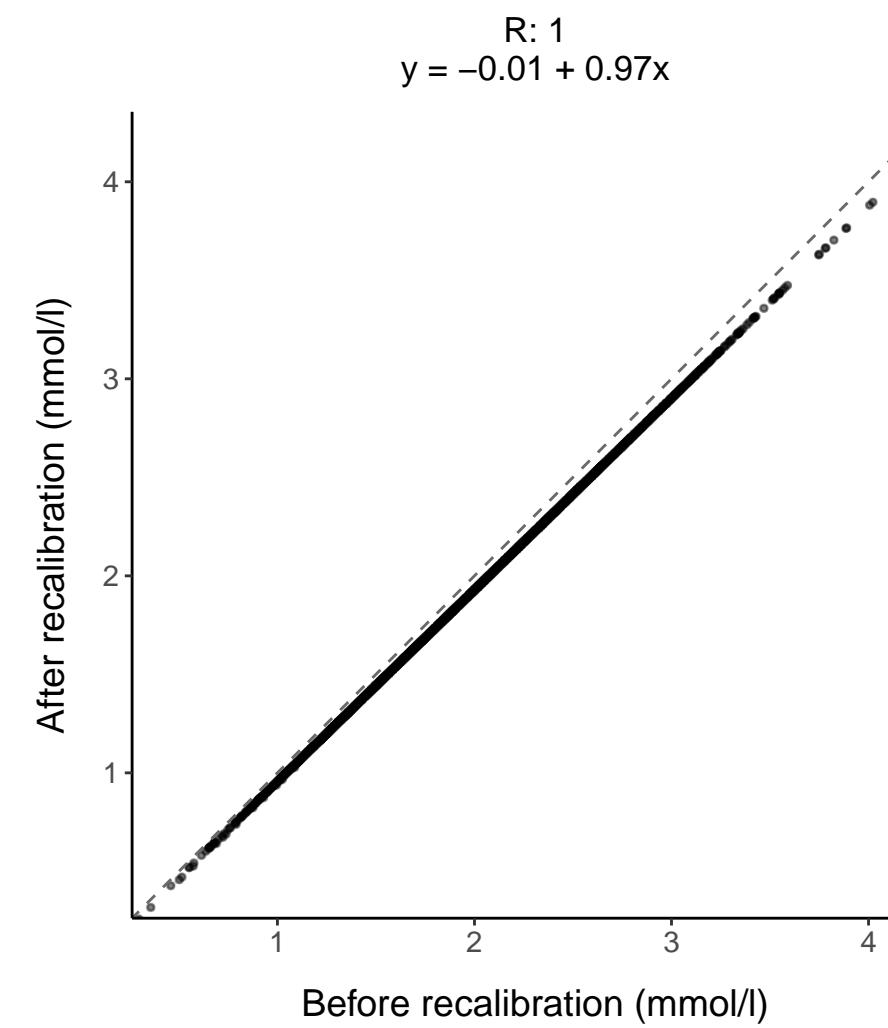
**VLDL\_C**



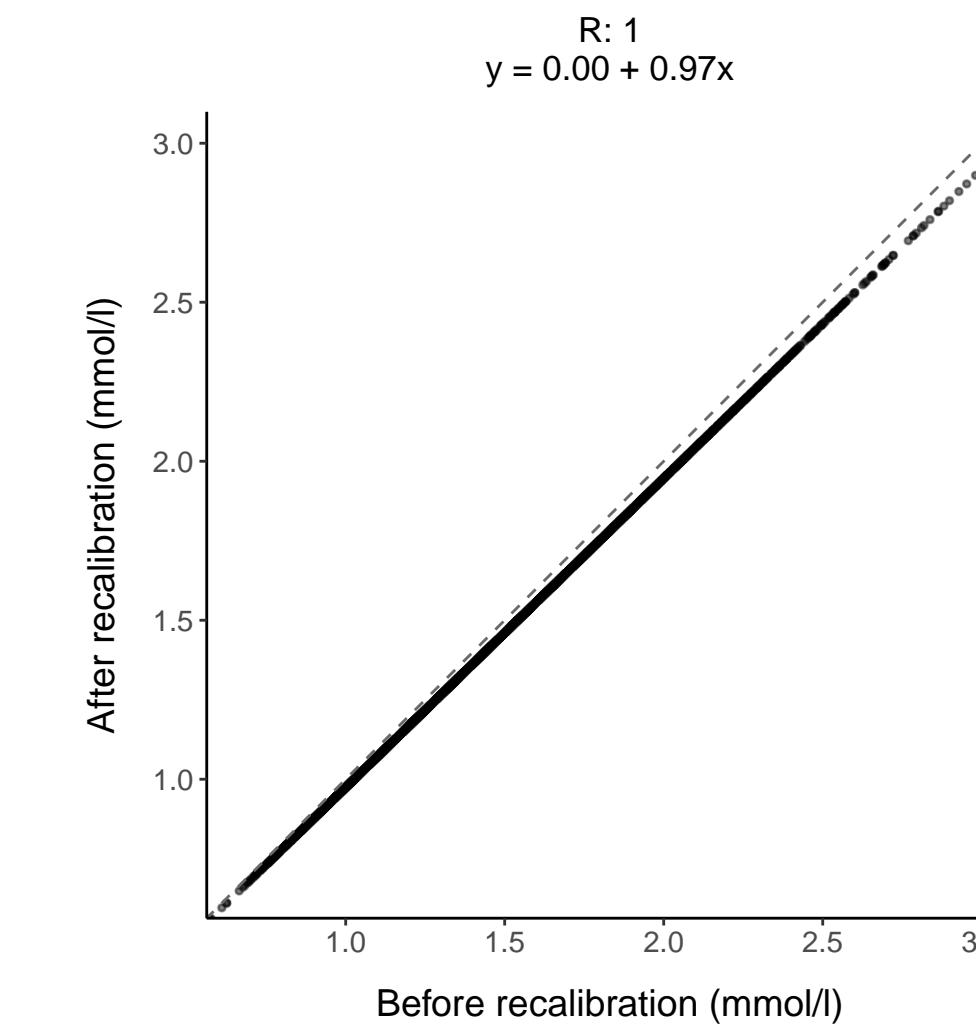
**Clinical\_LDL\_C**



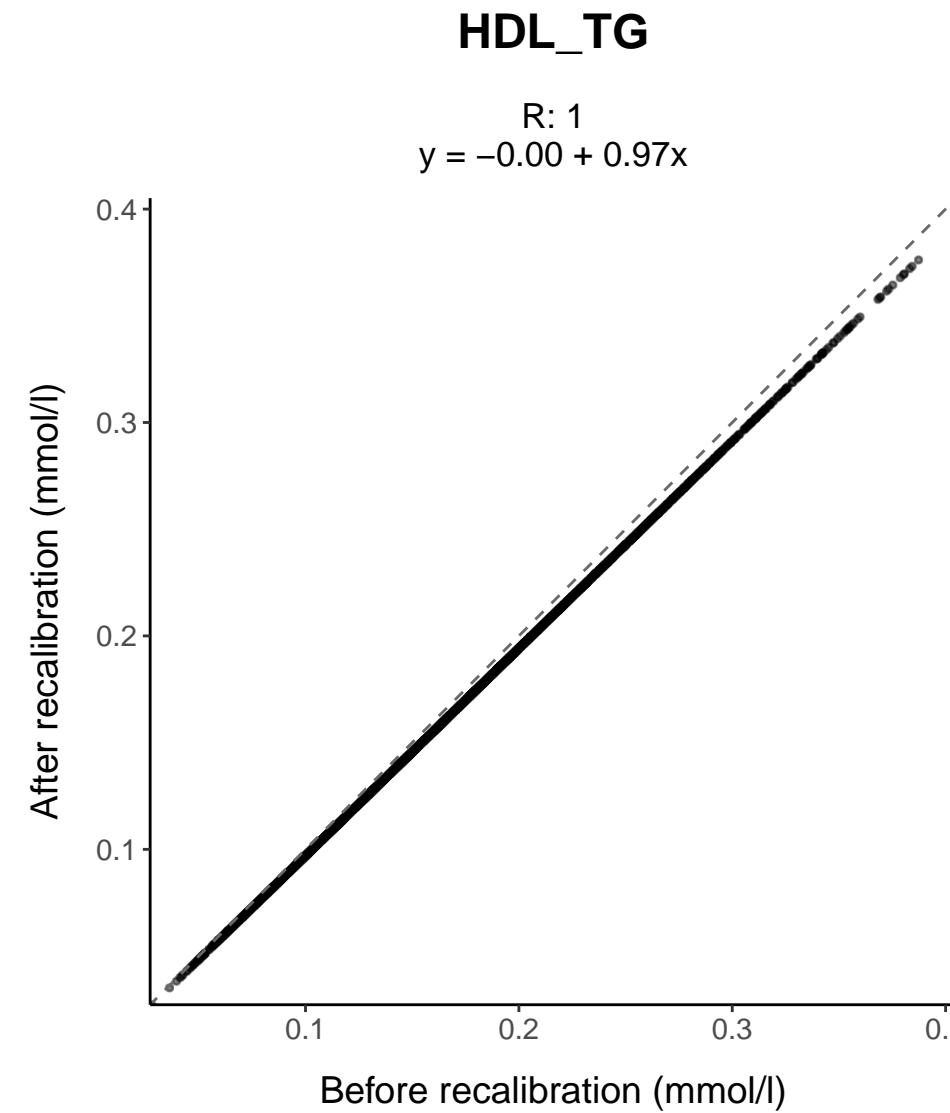
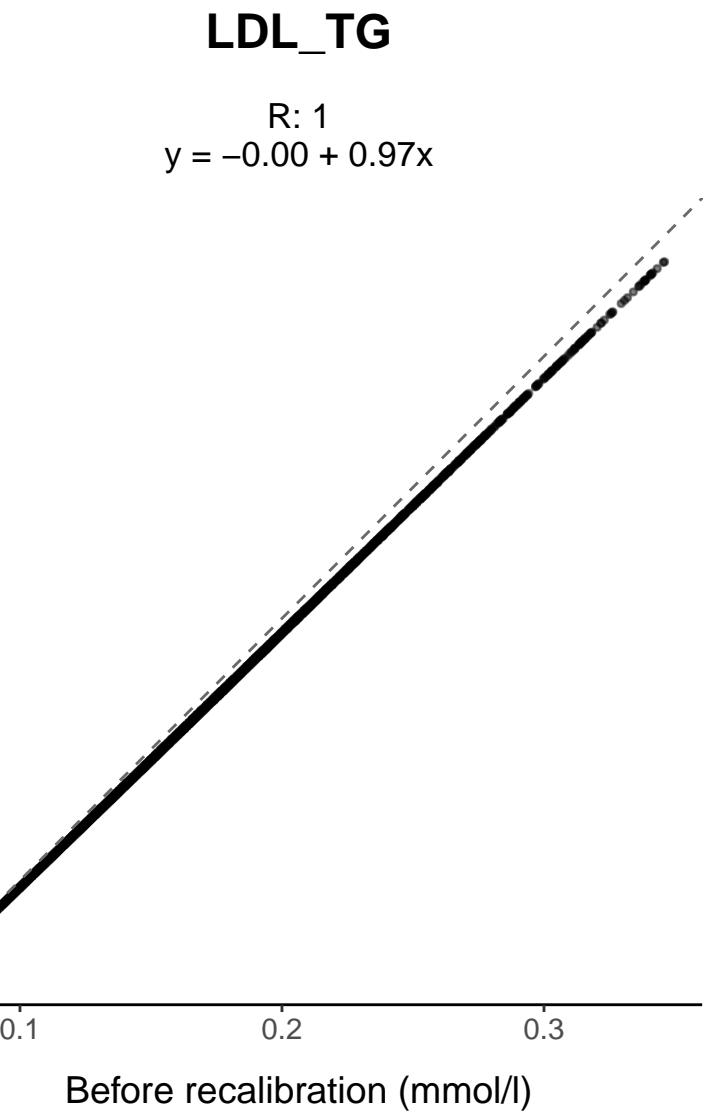
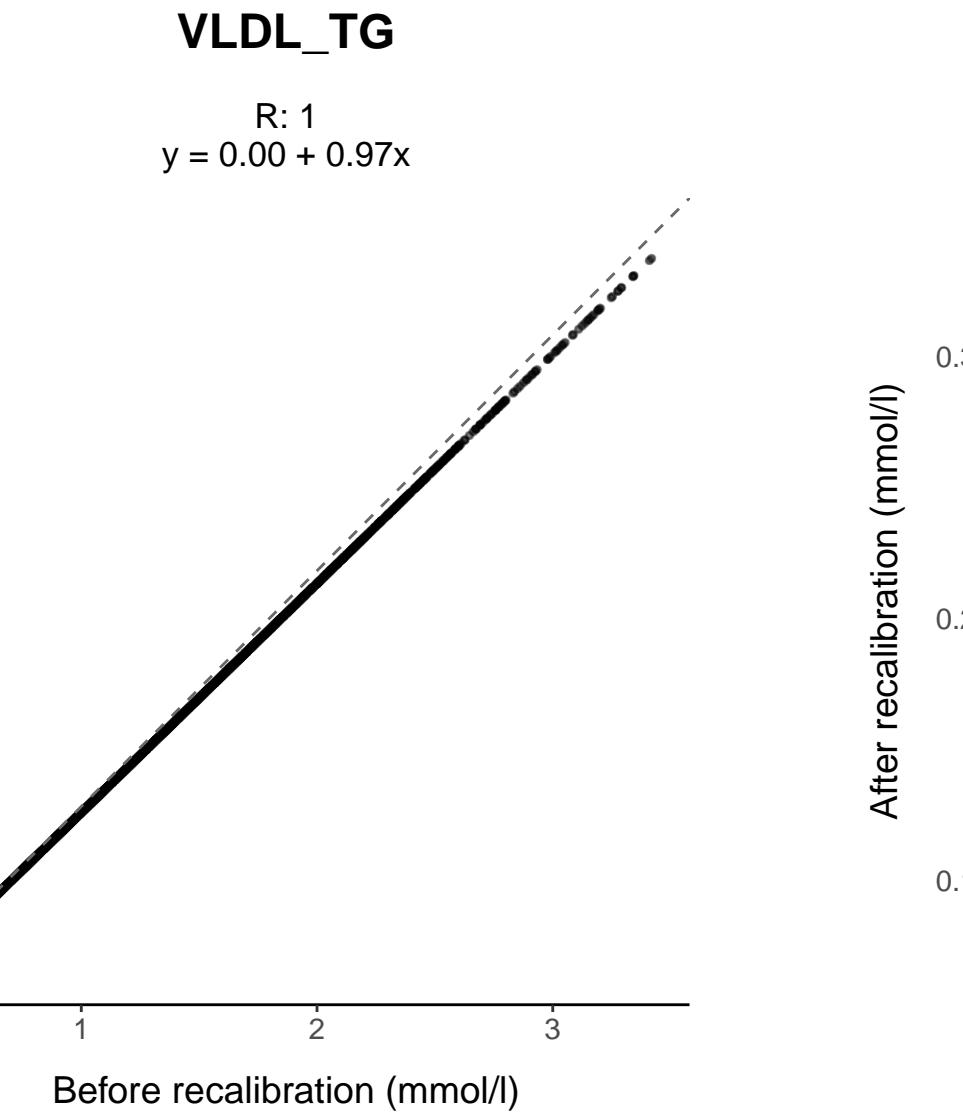
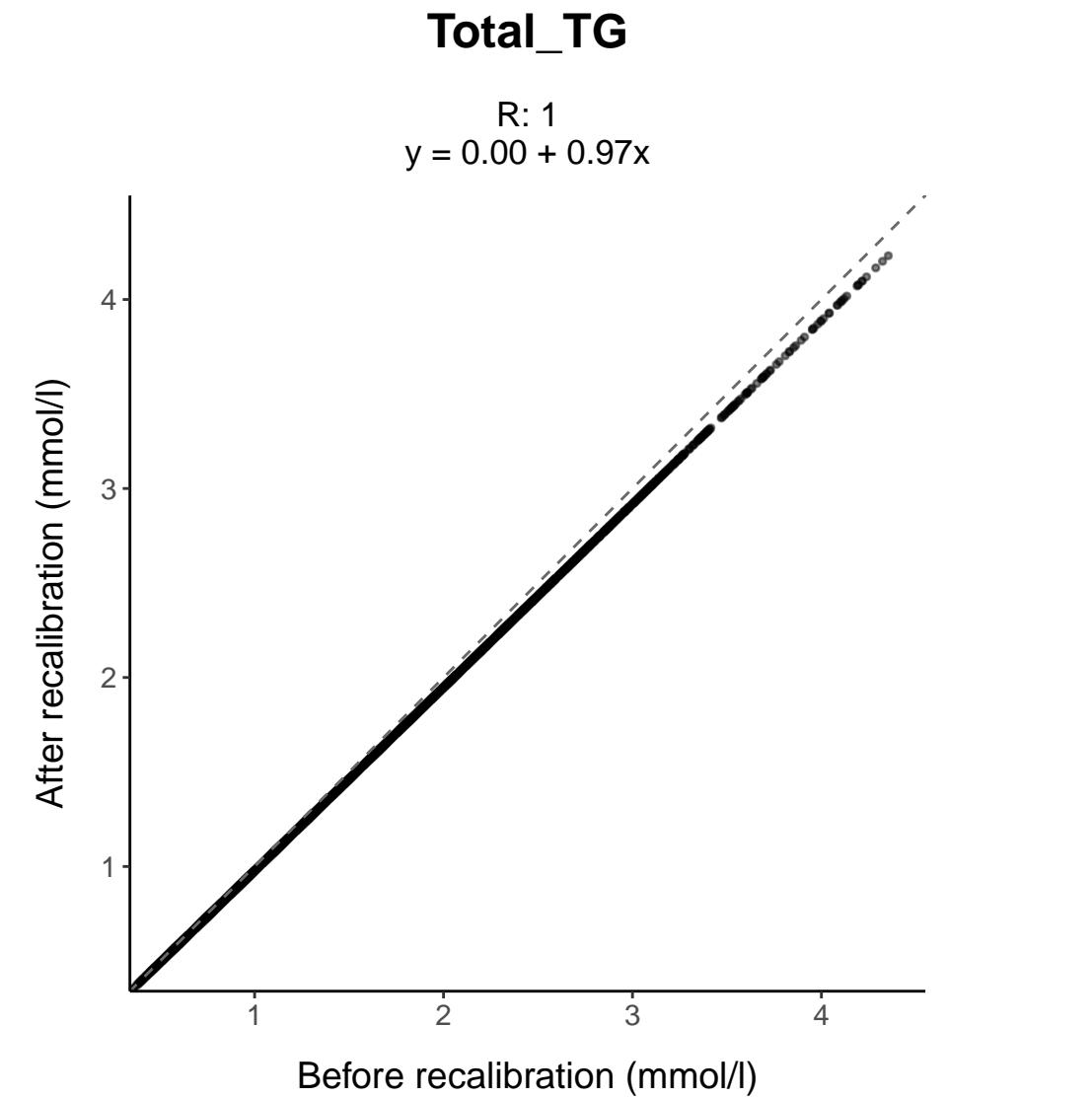
**LDL\_C**



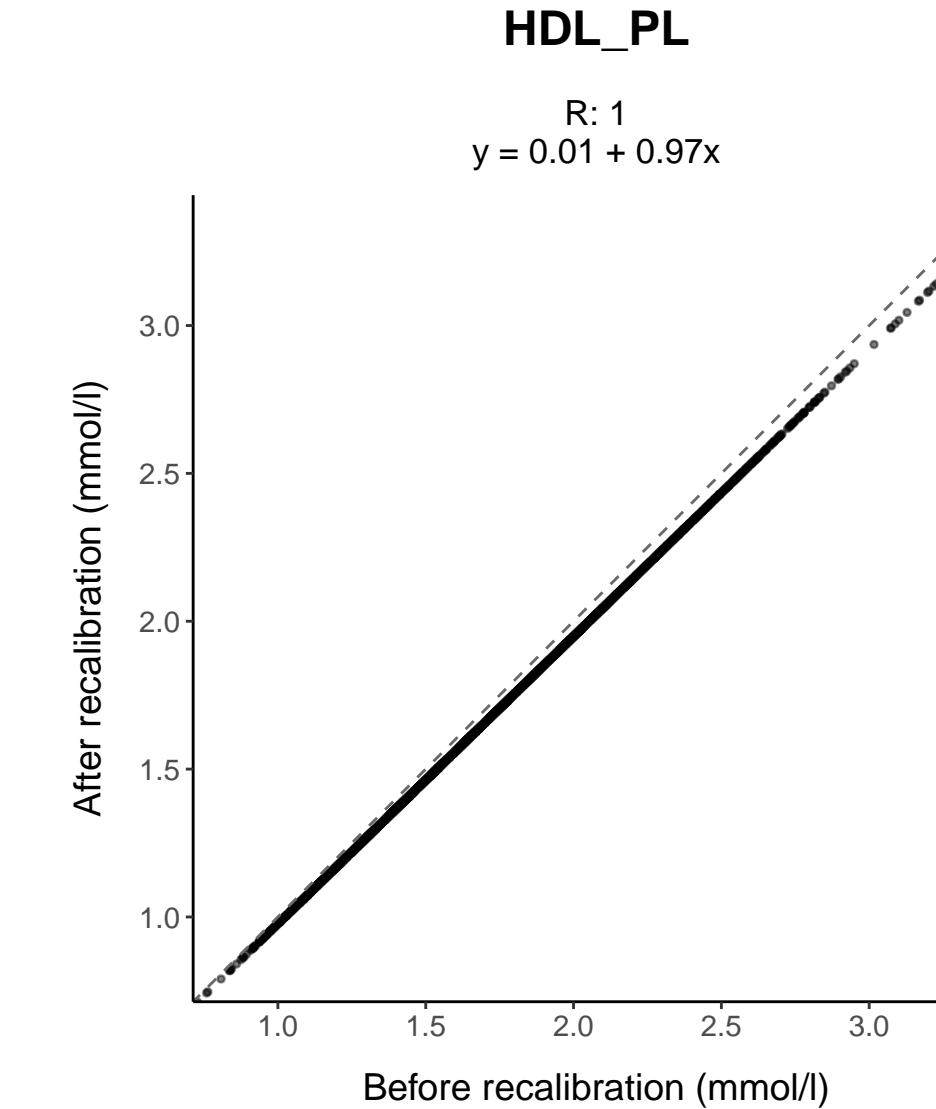
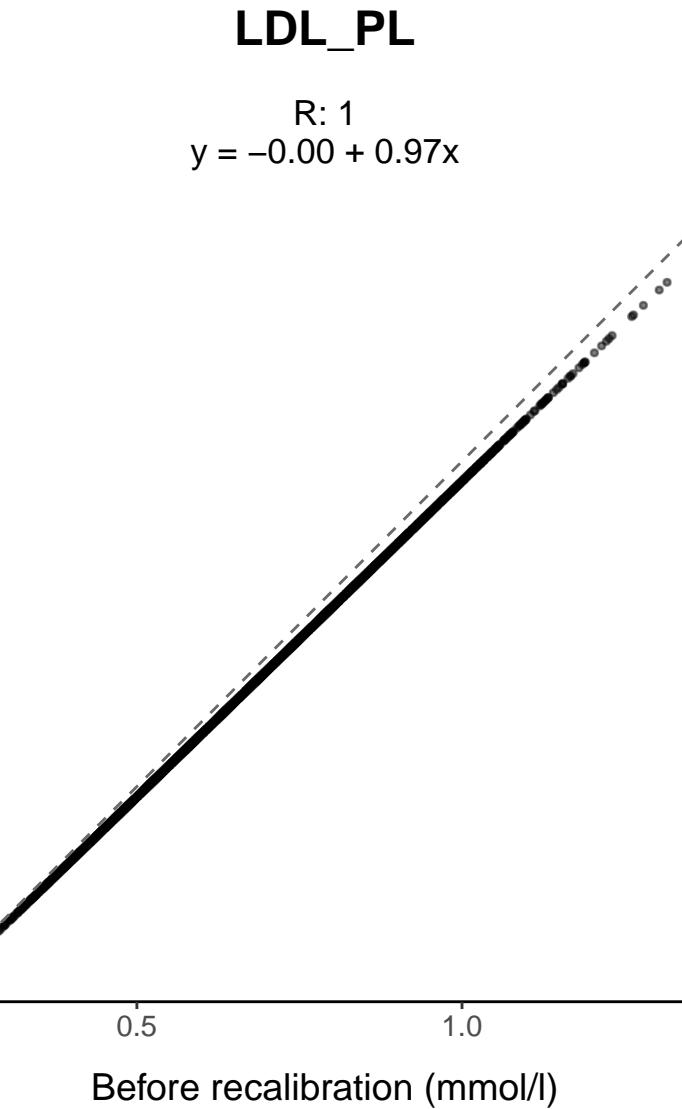
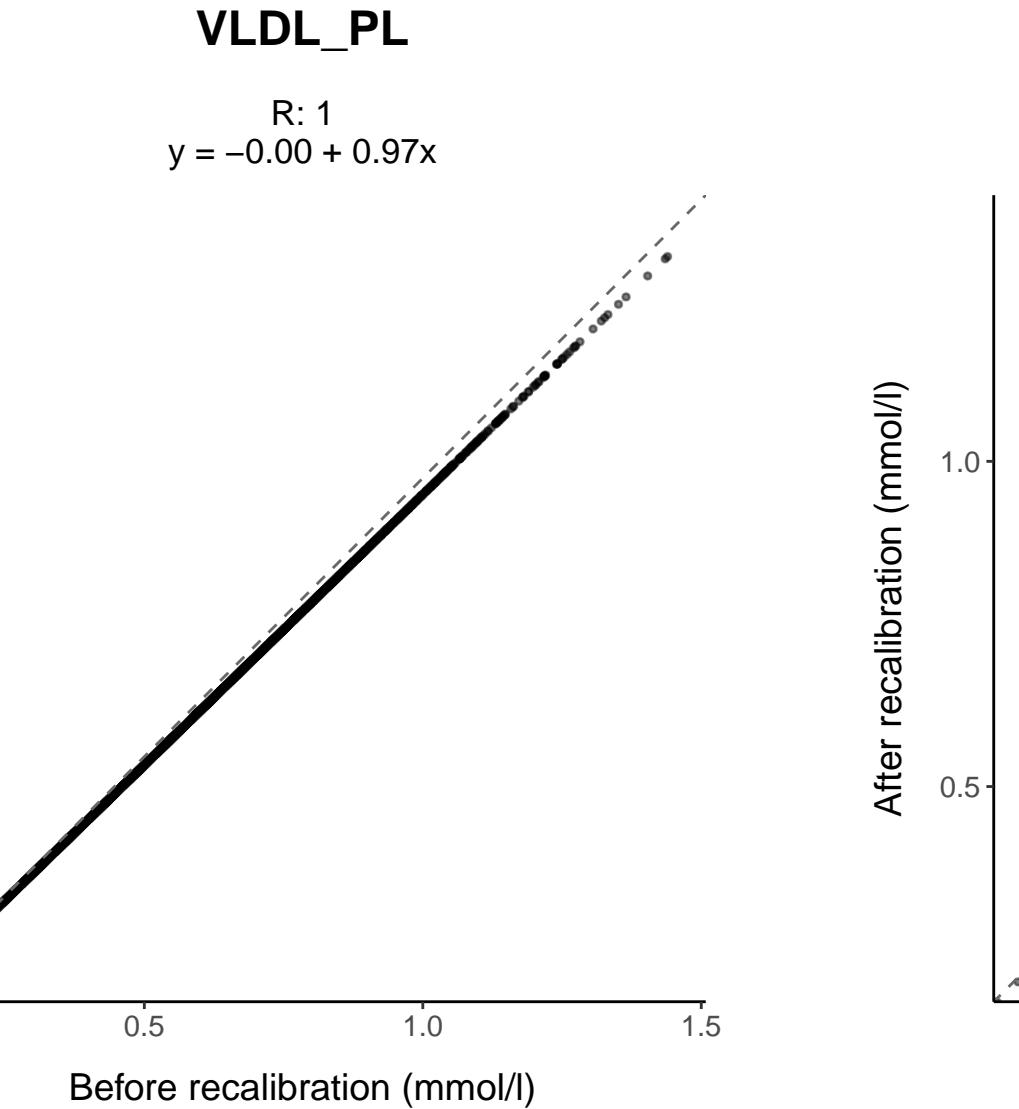
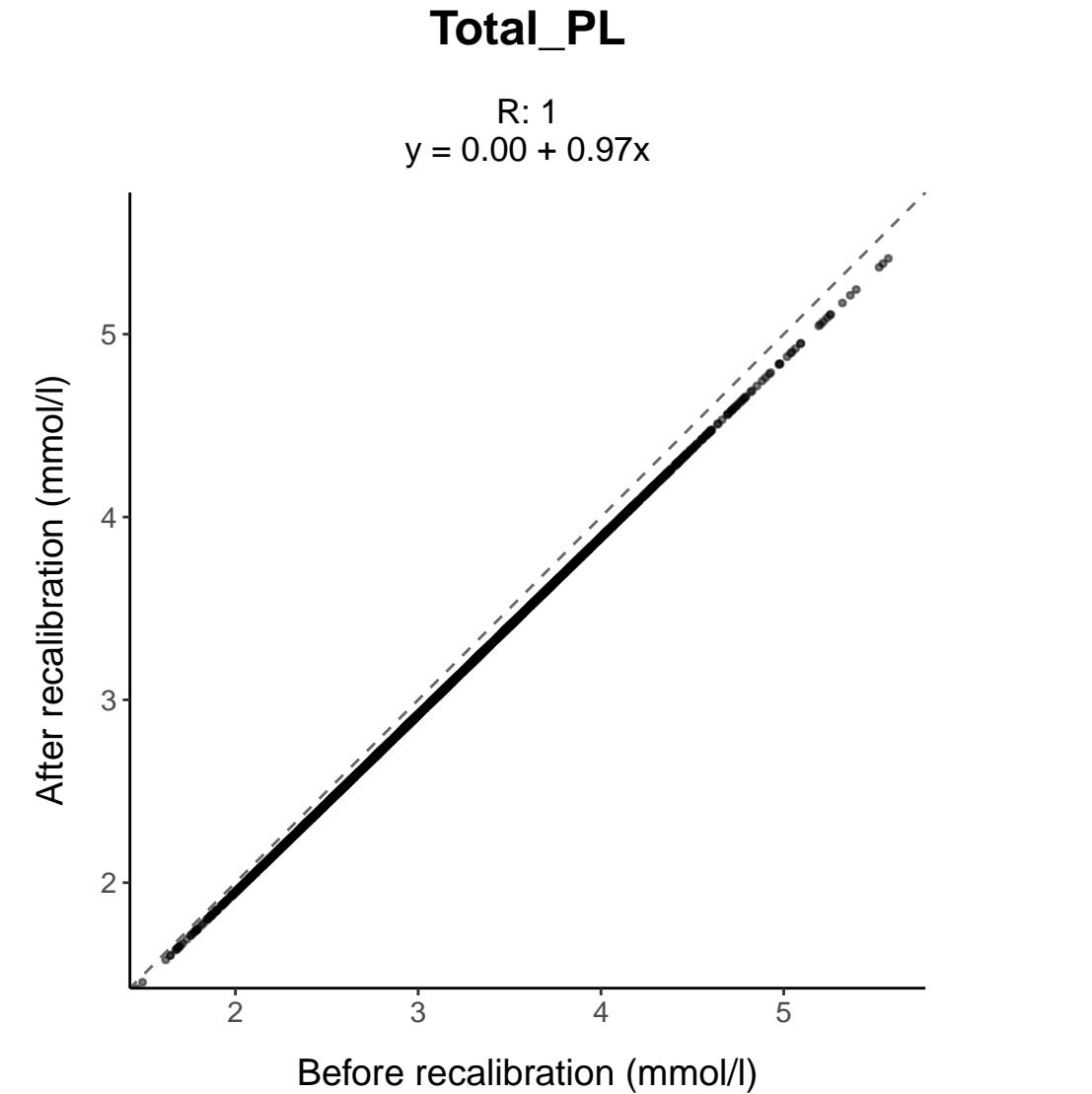
**HDL\_C**



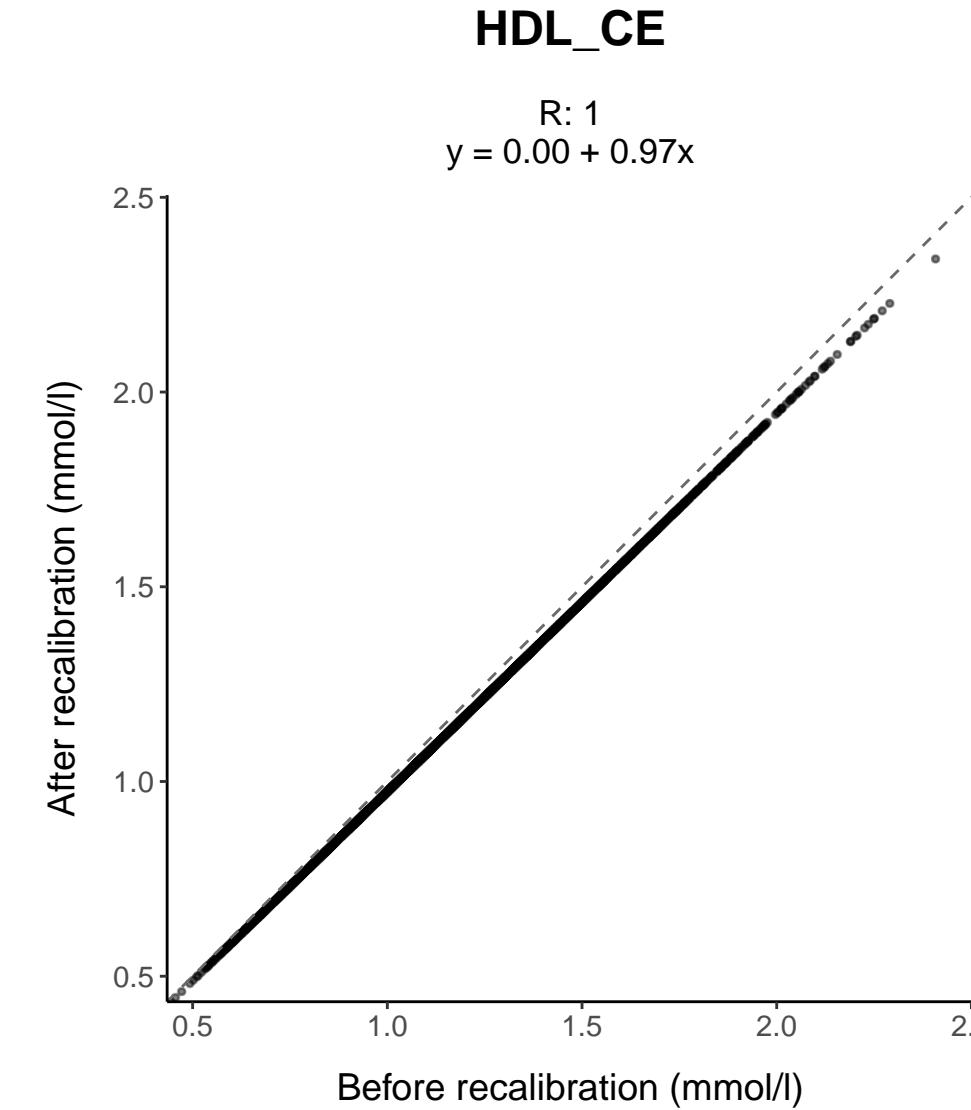
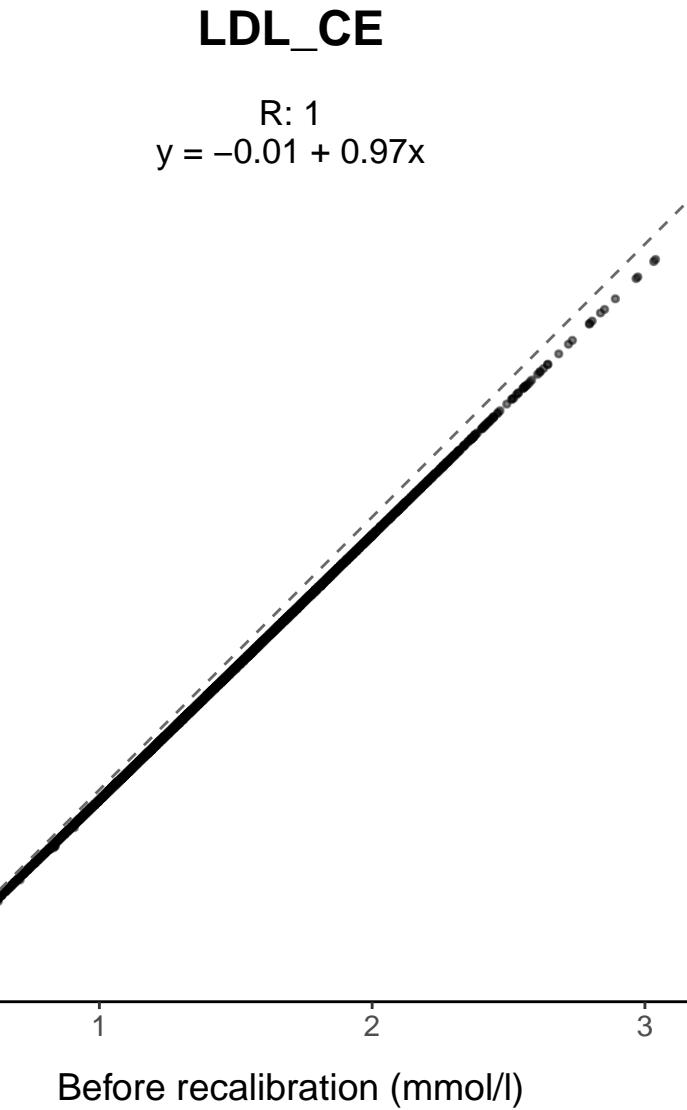
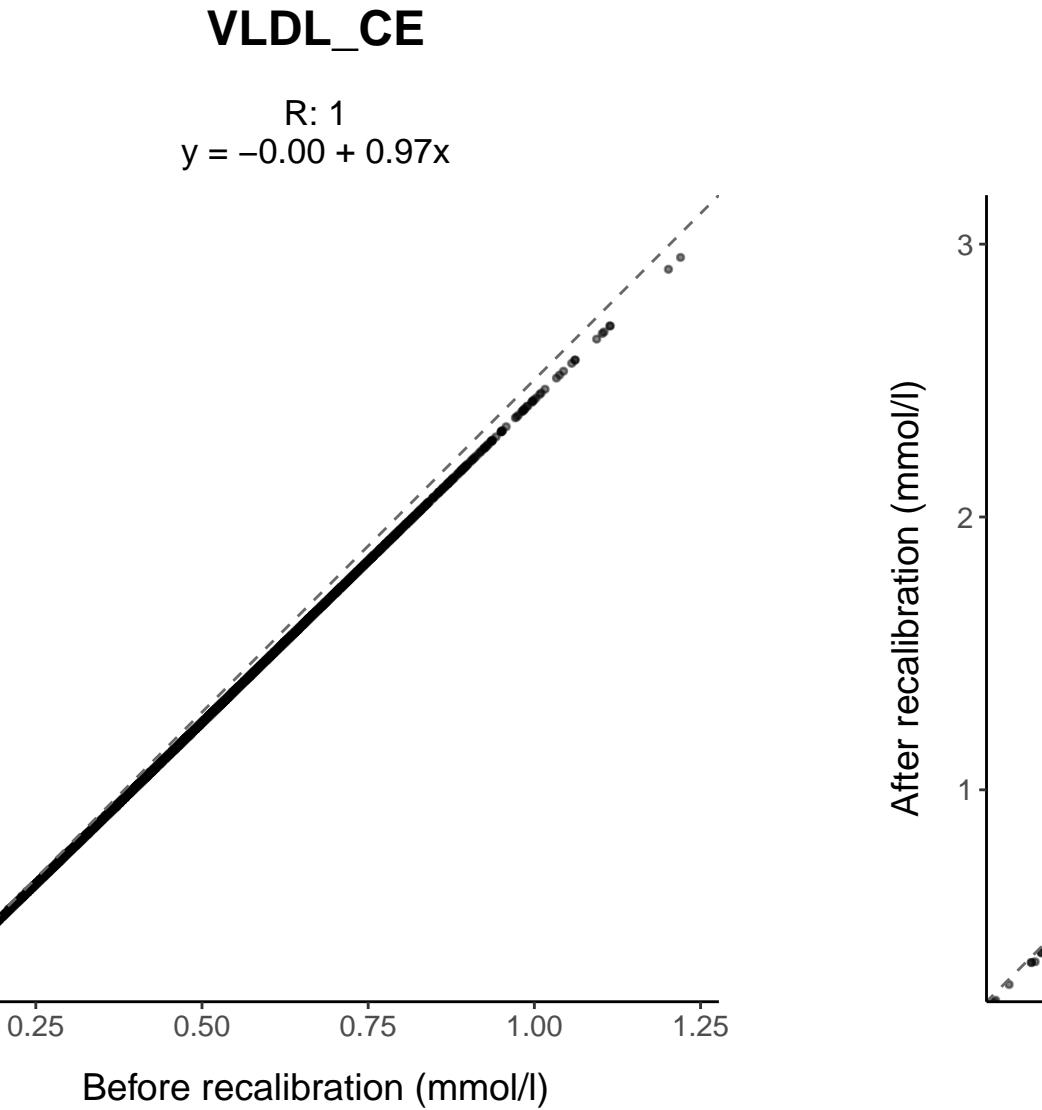
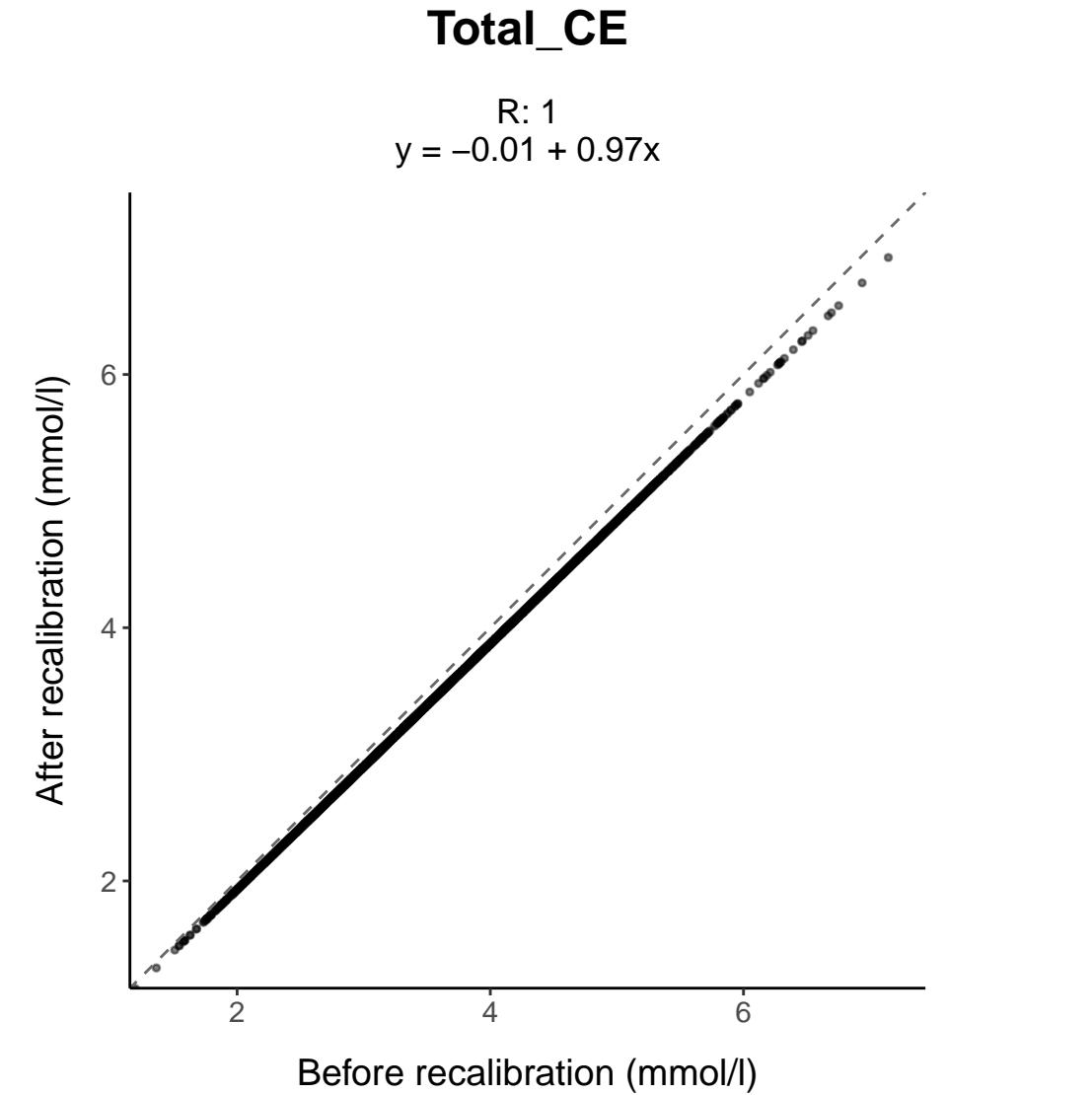
# Triglycerides



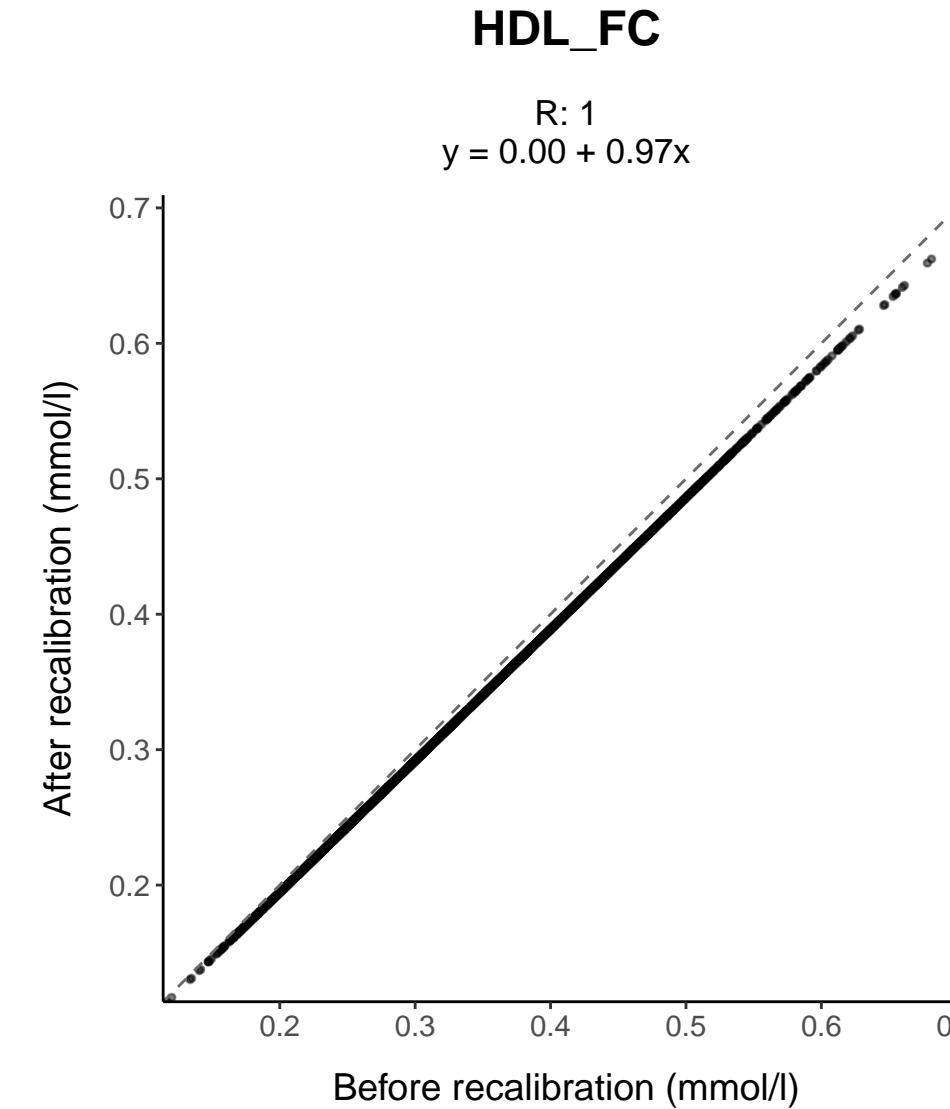
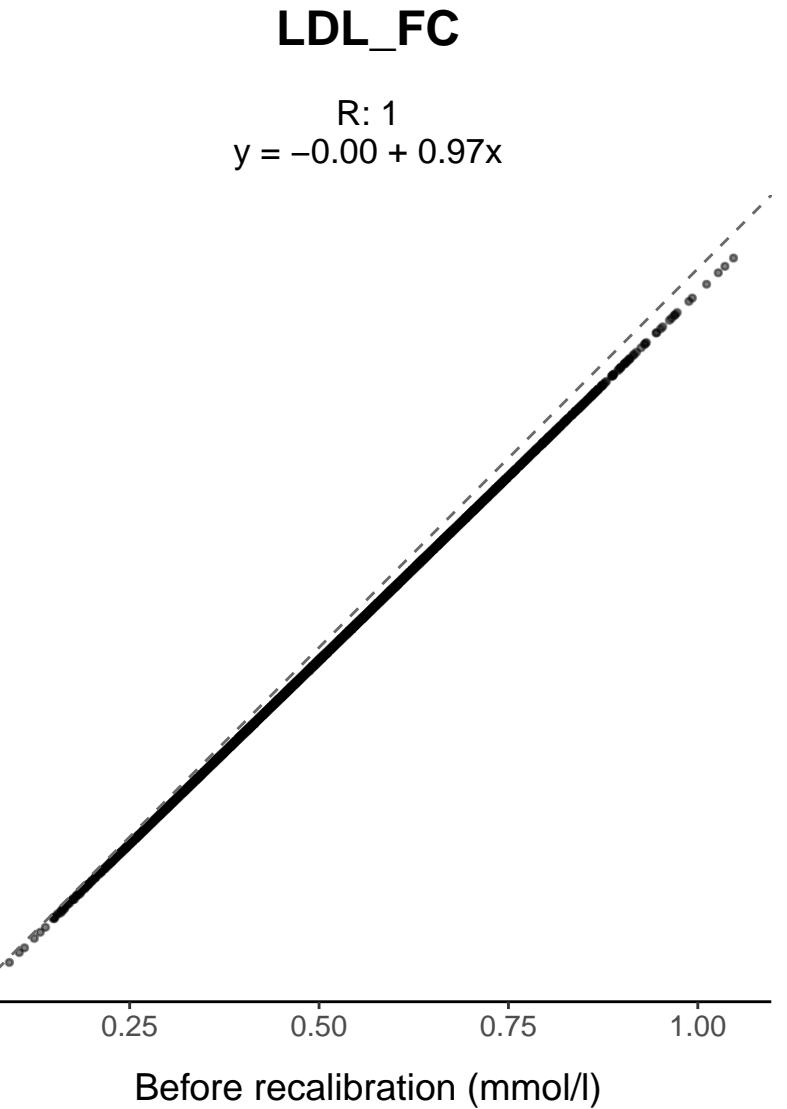
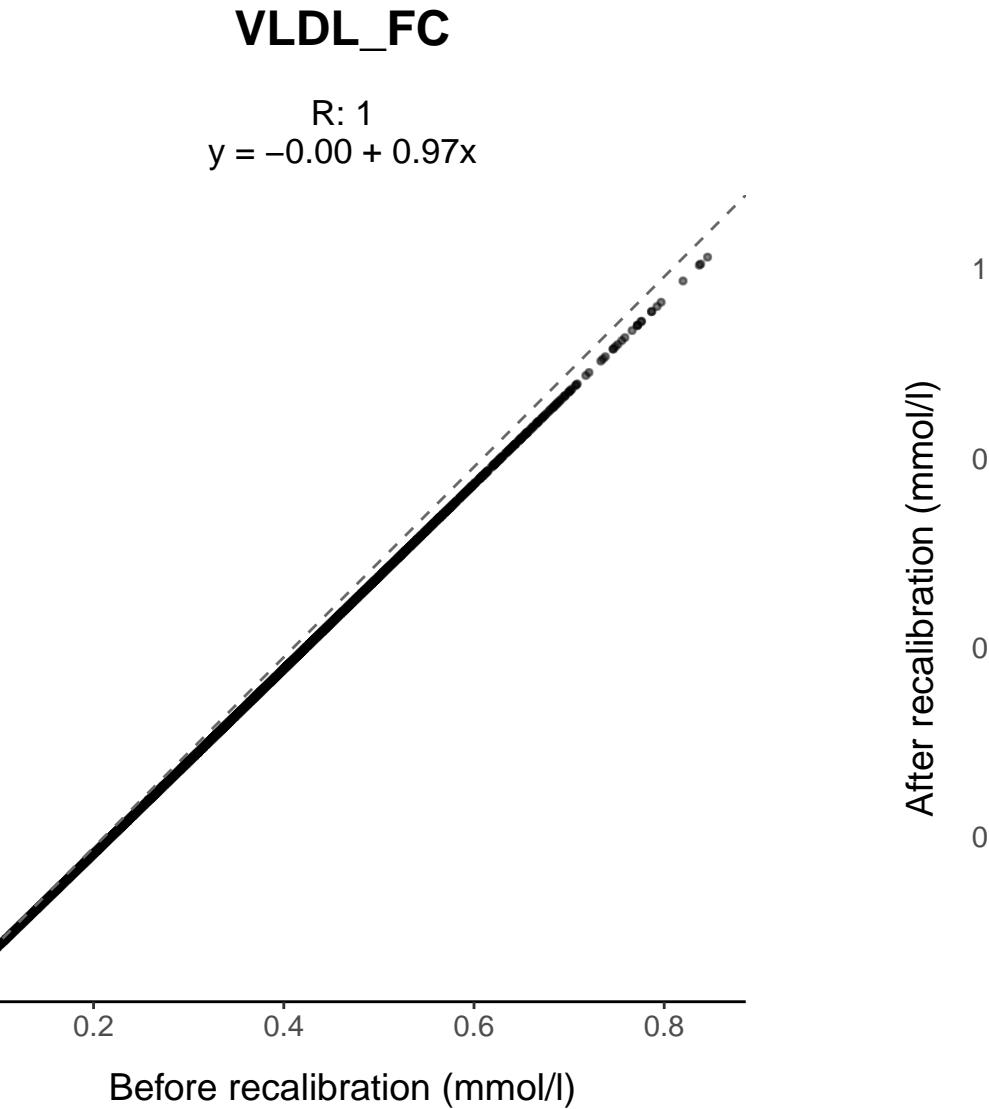
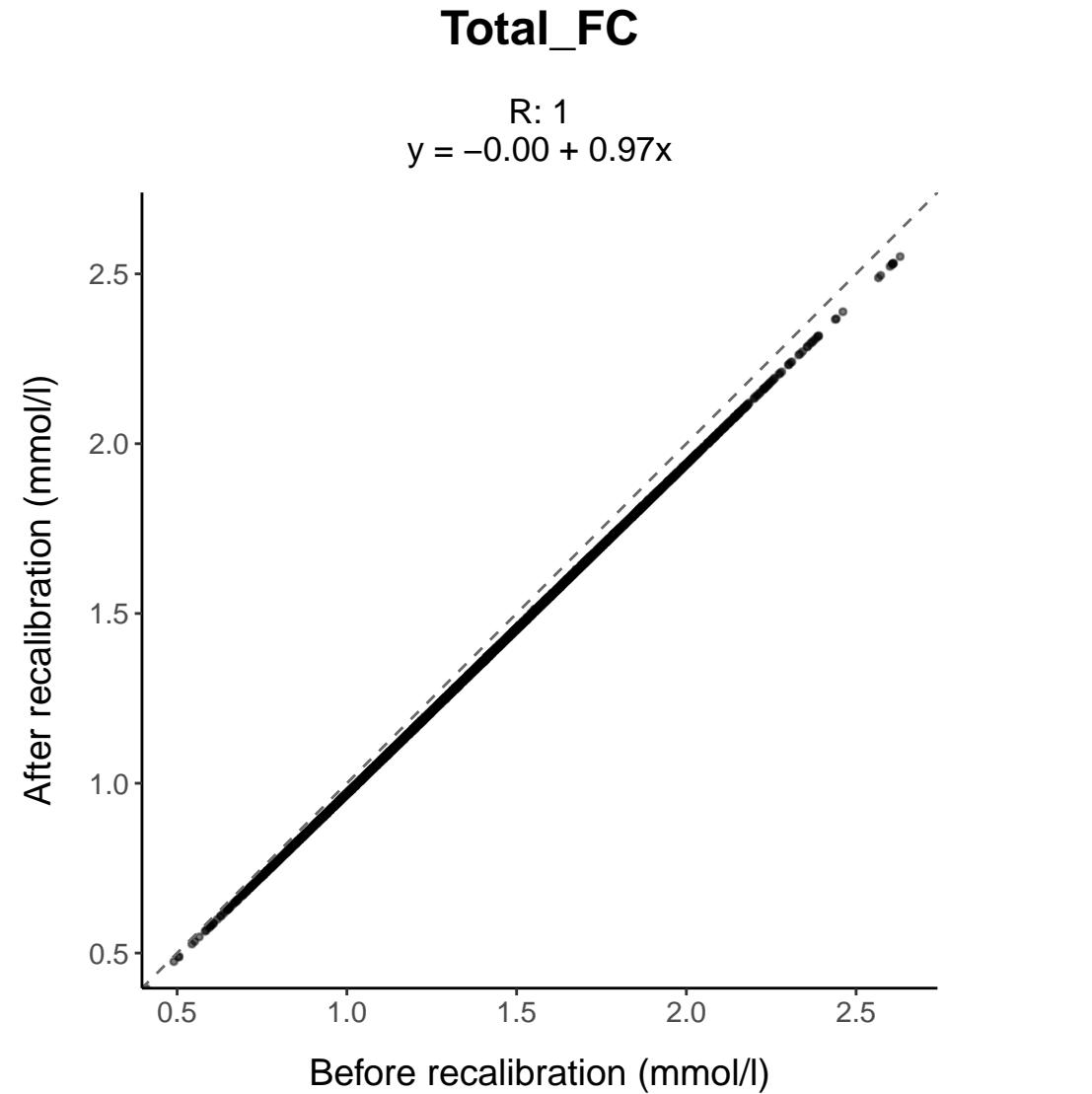
# Phospholipids



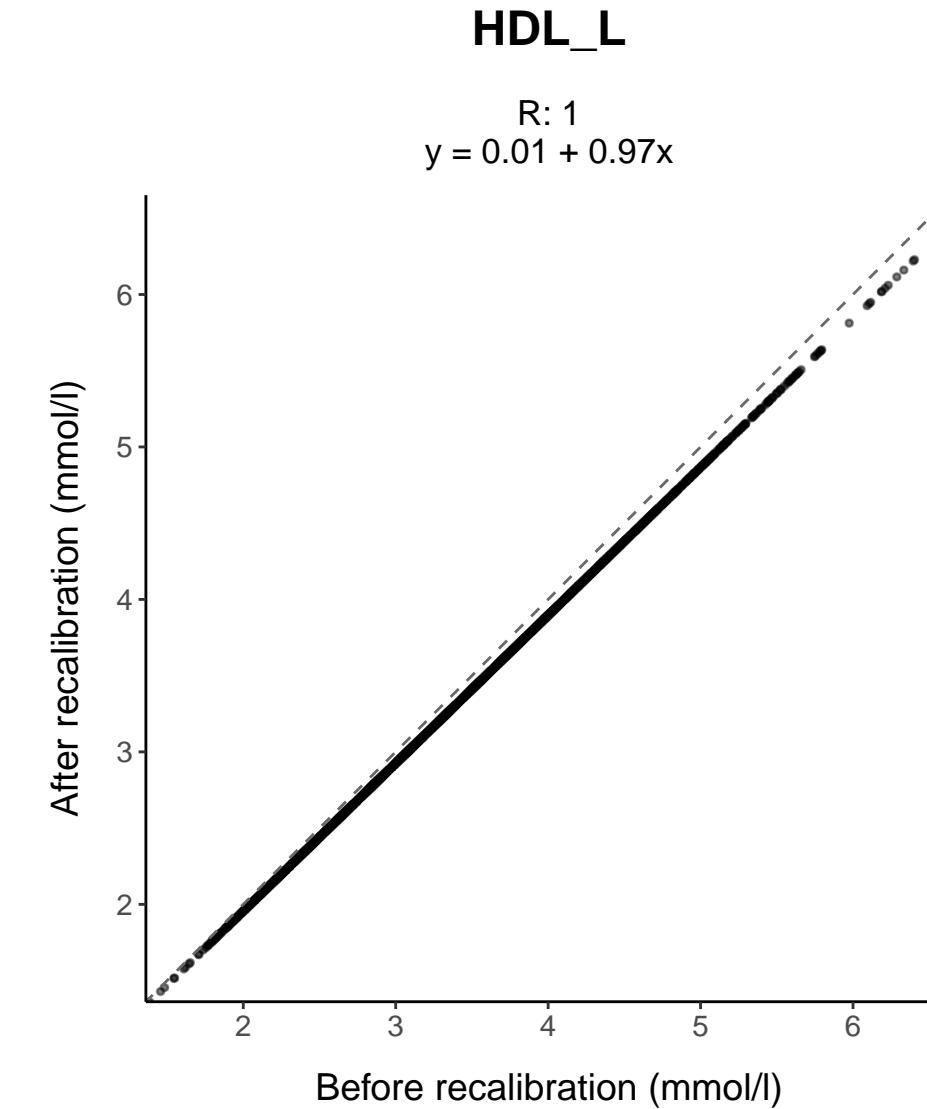
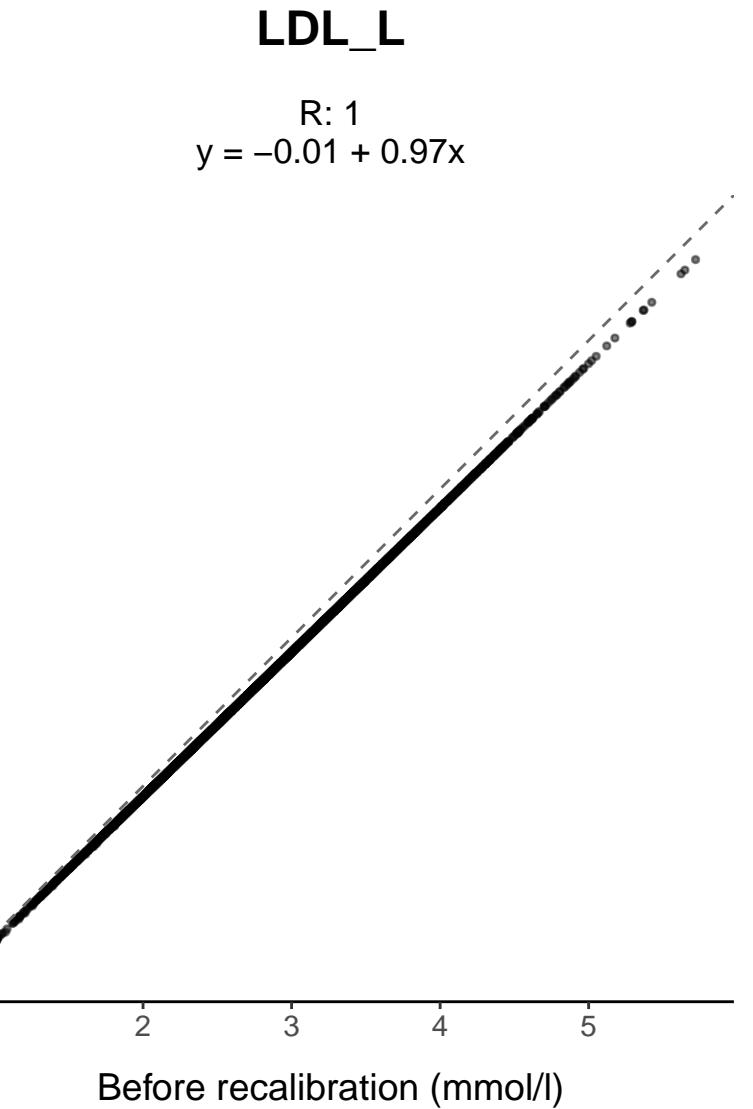
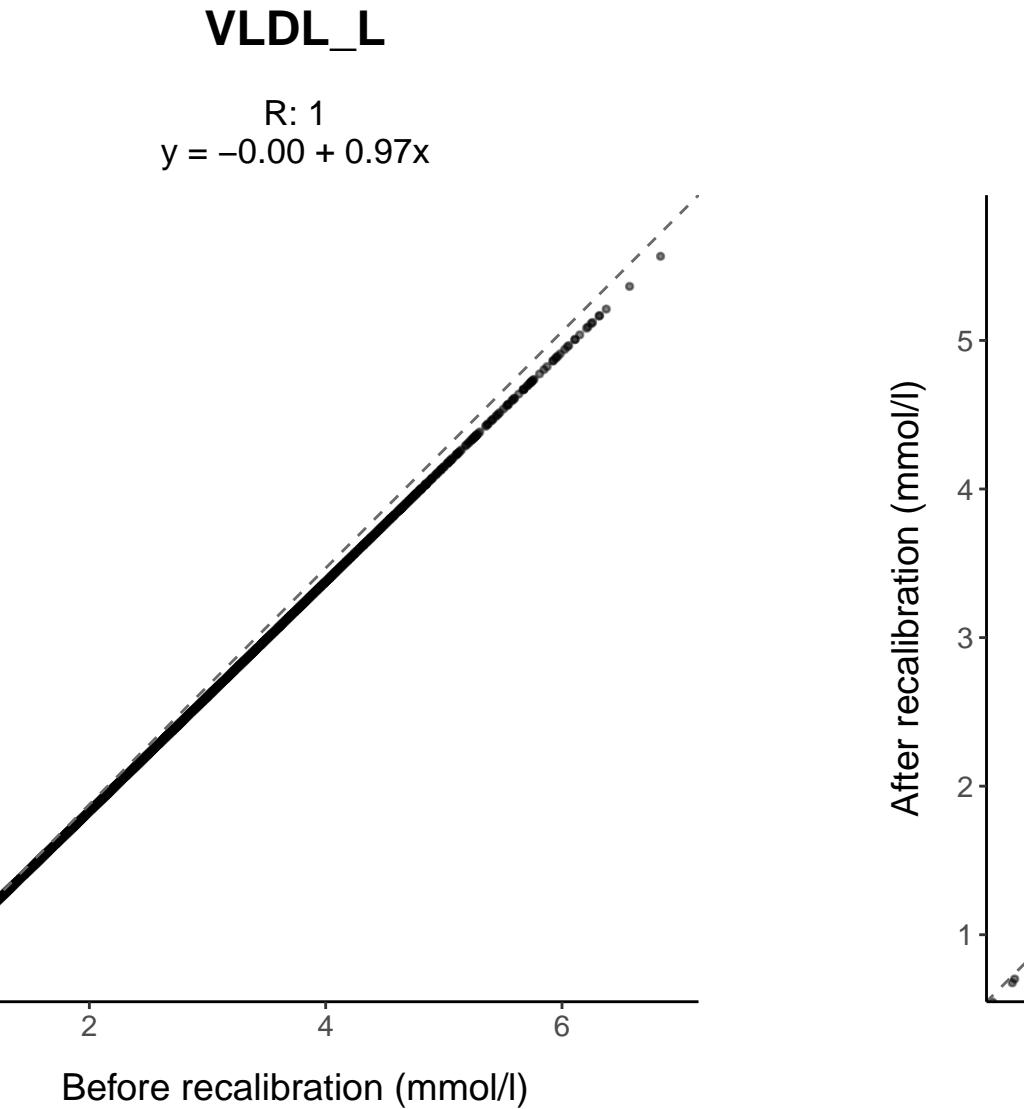
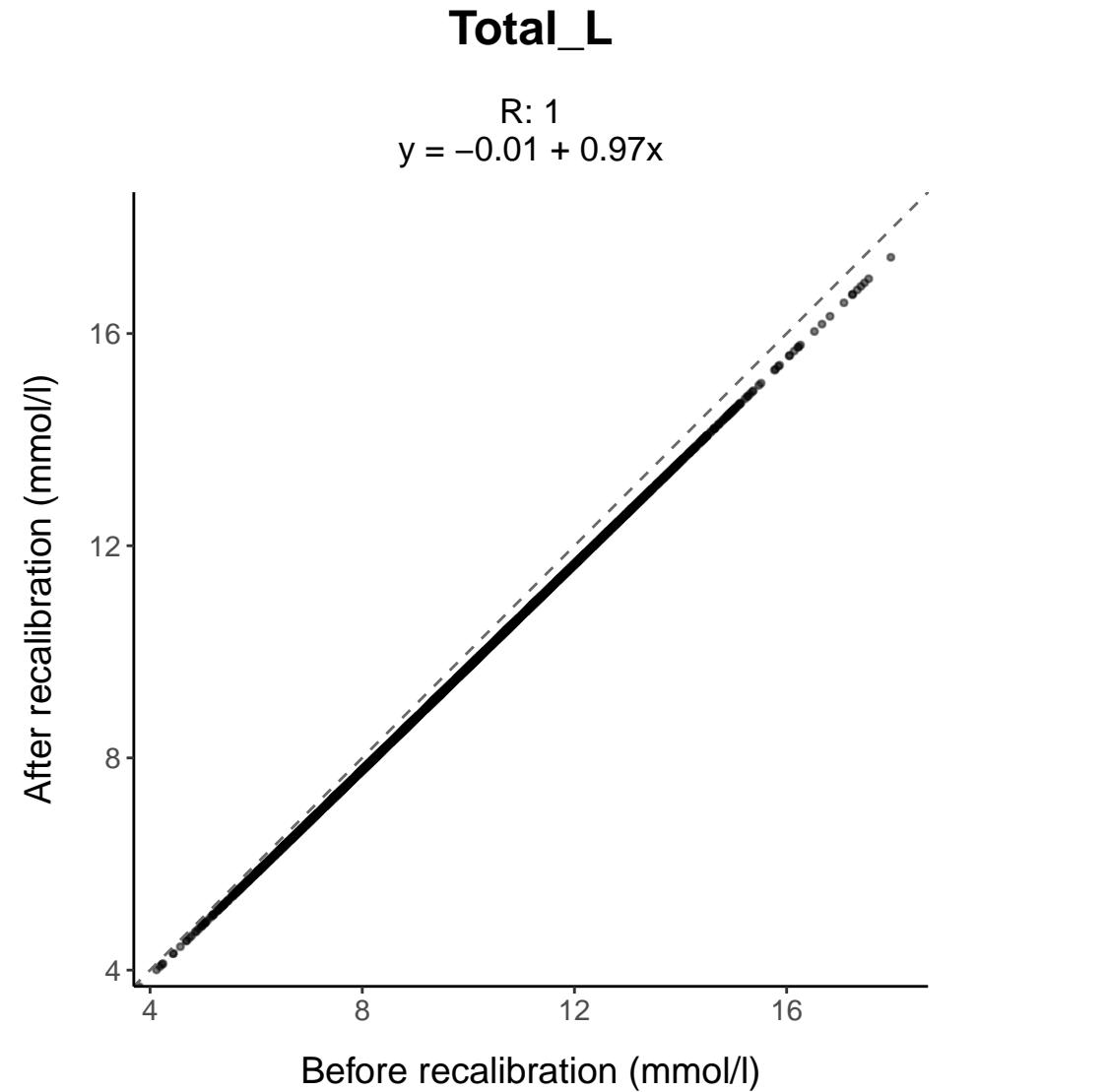
# Cholesteryl esters



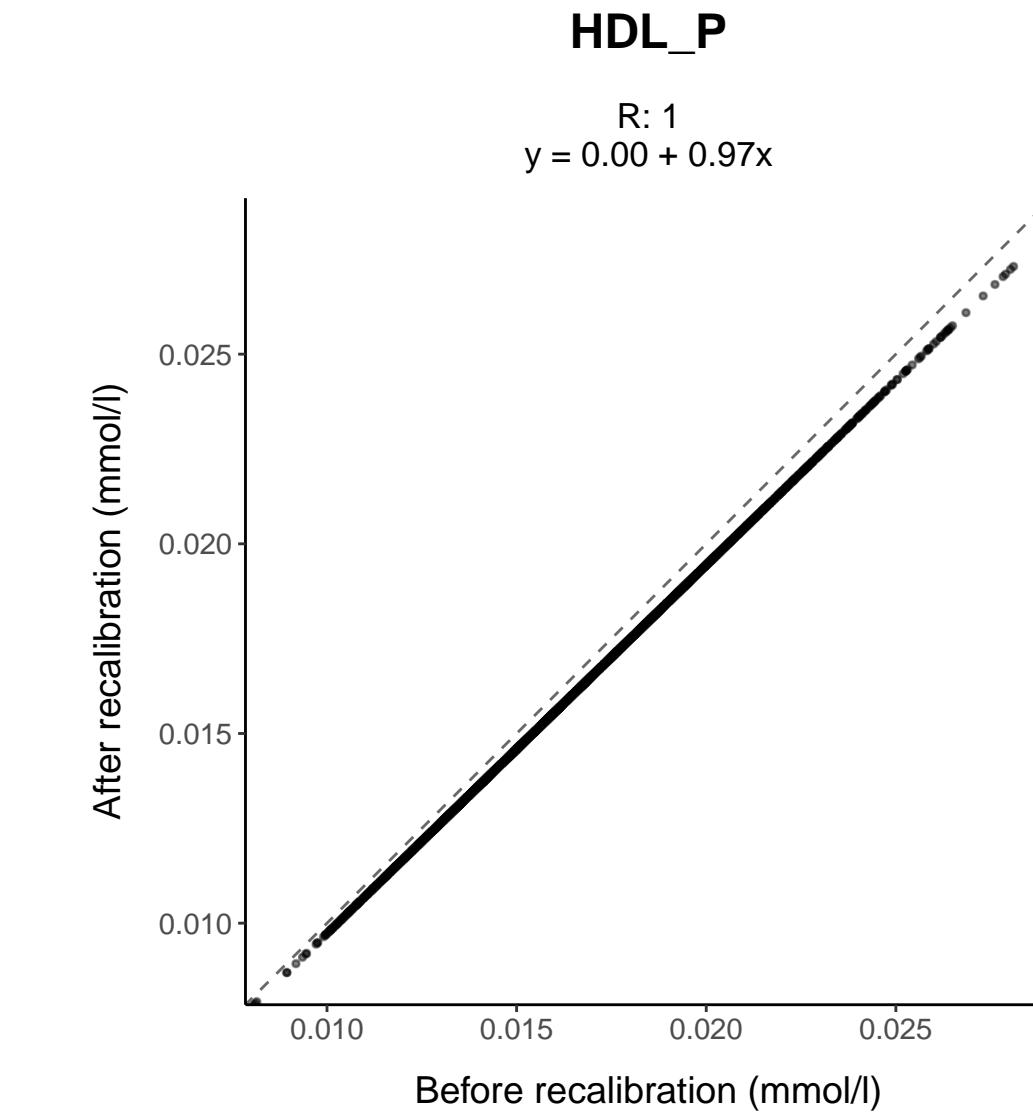
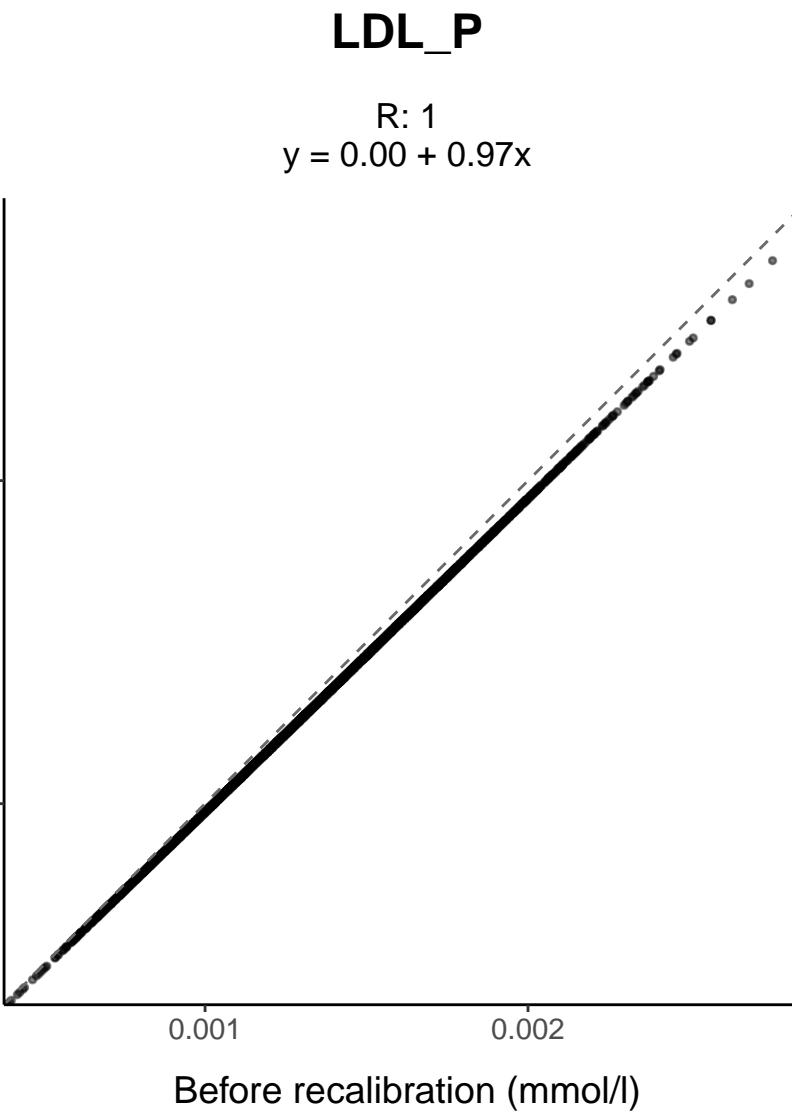
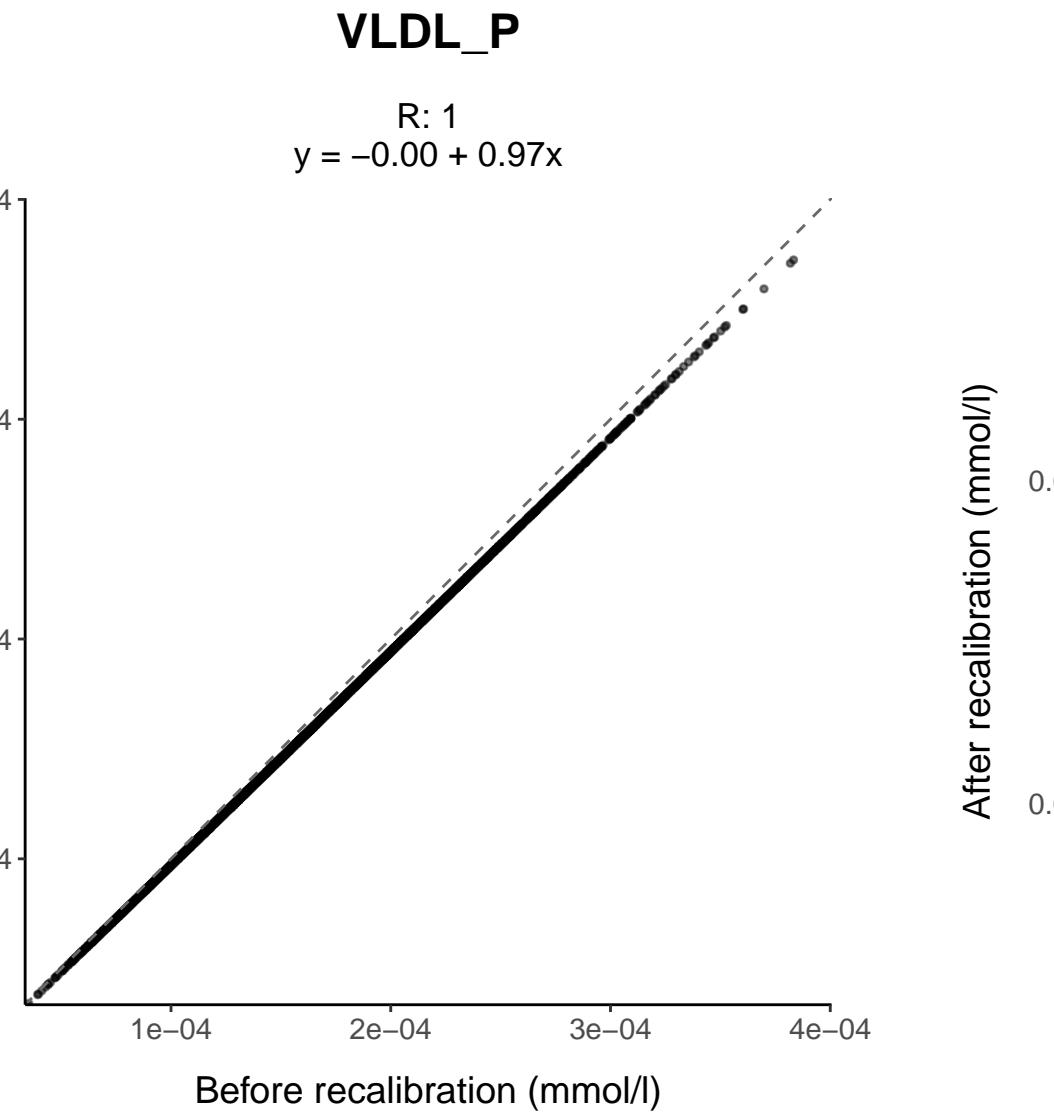
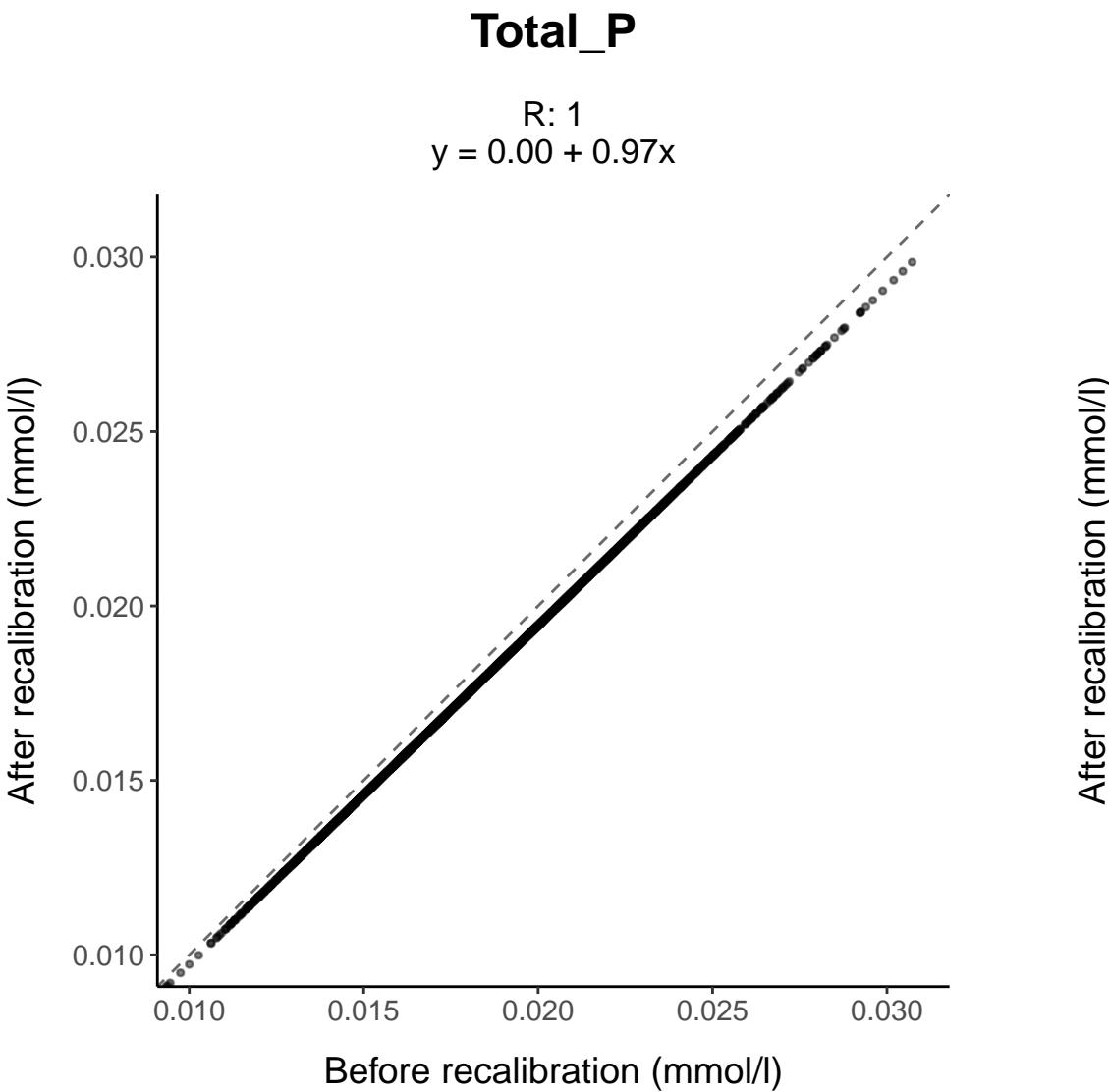
# Free cholesterol



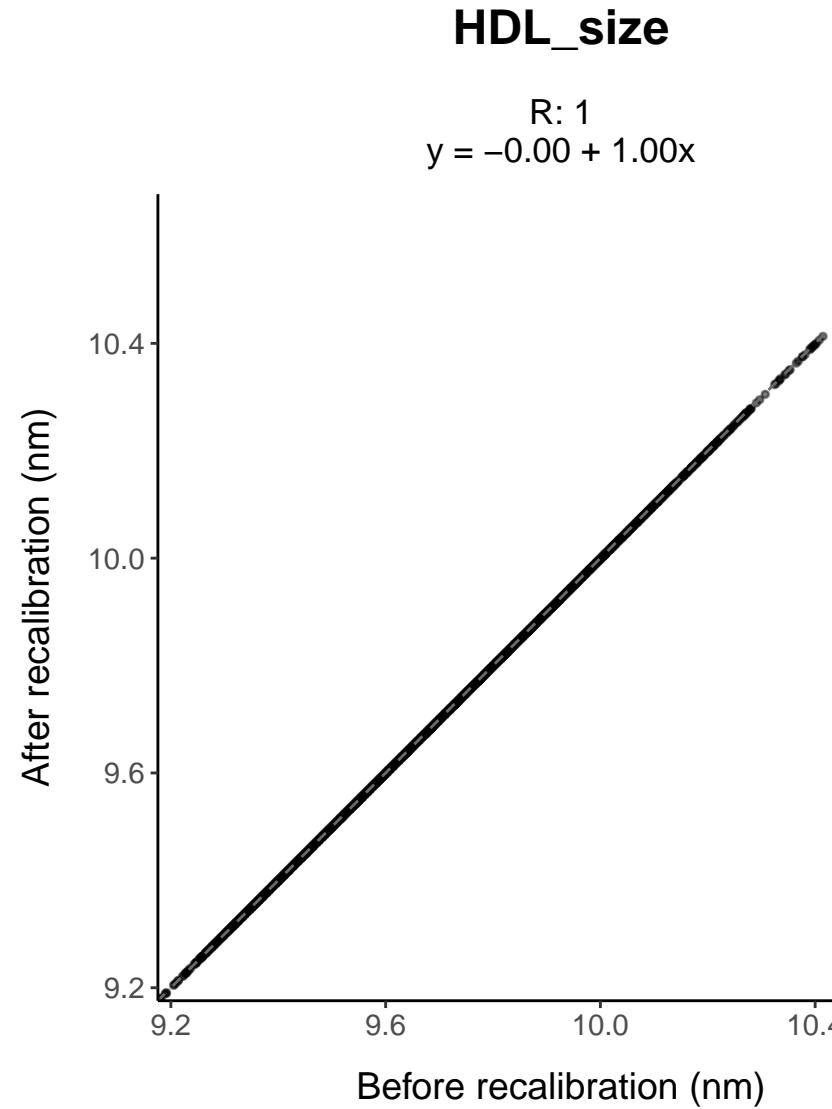
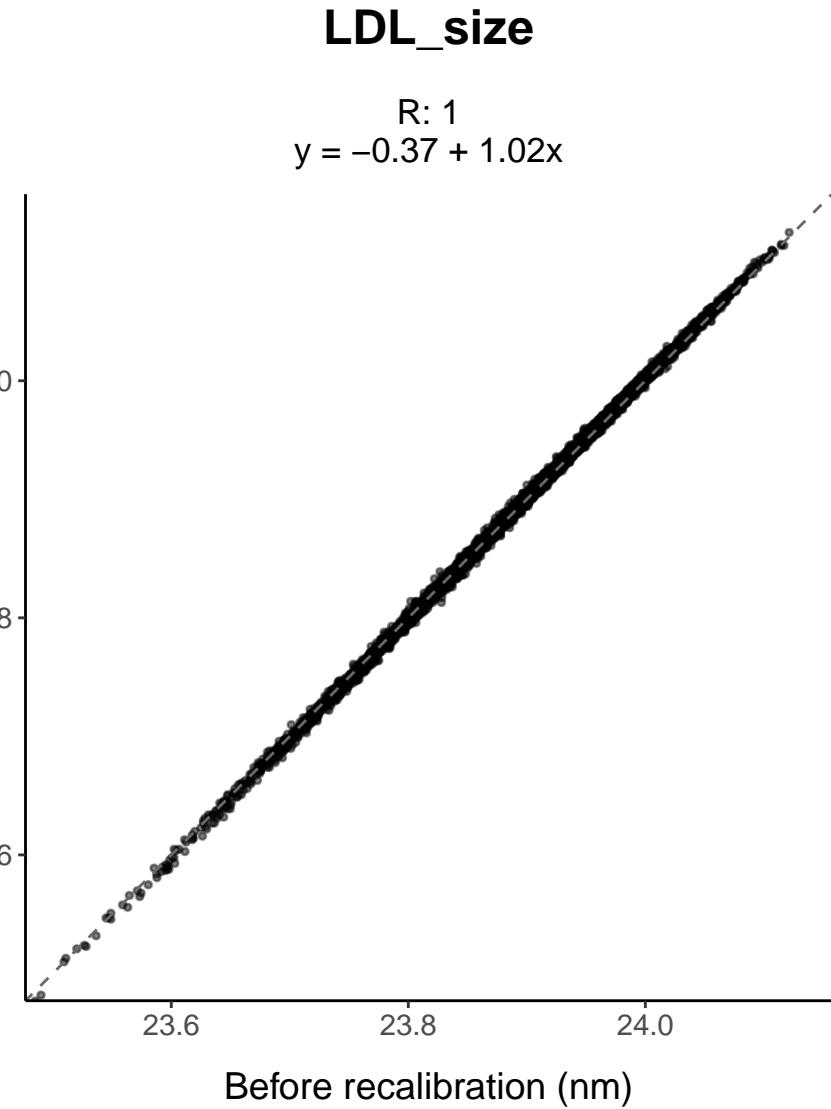
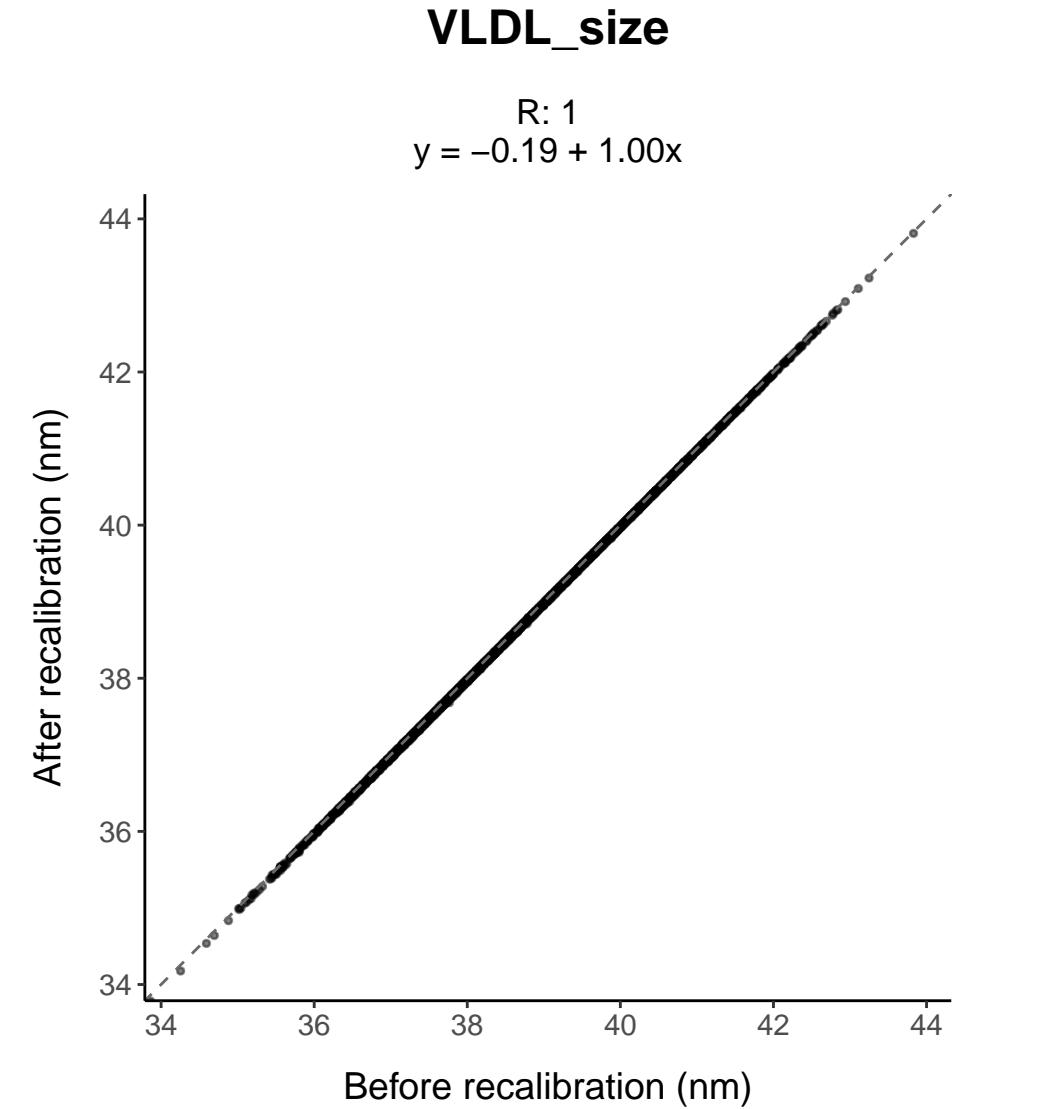
## Total lipids



# Lipoprotein particle concentrations

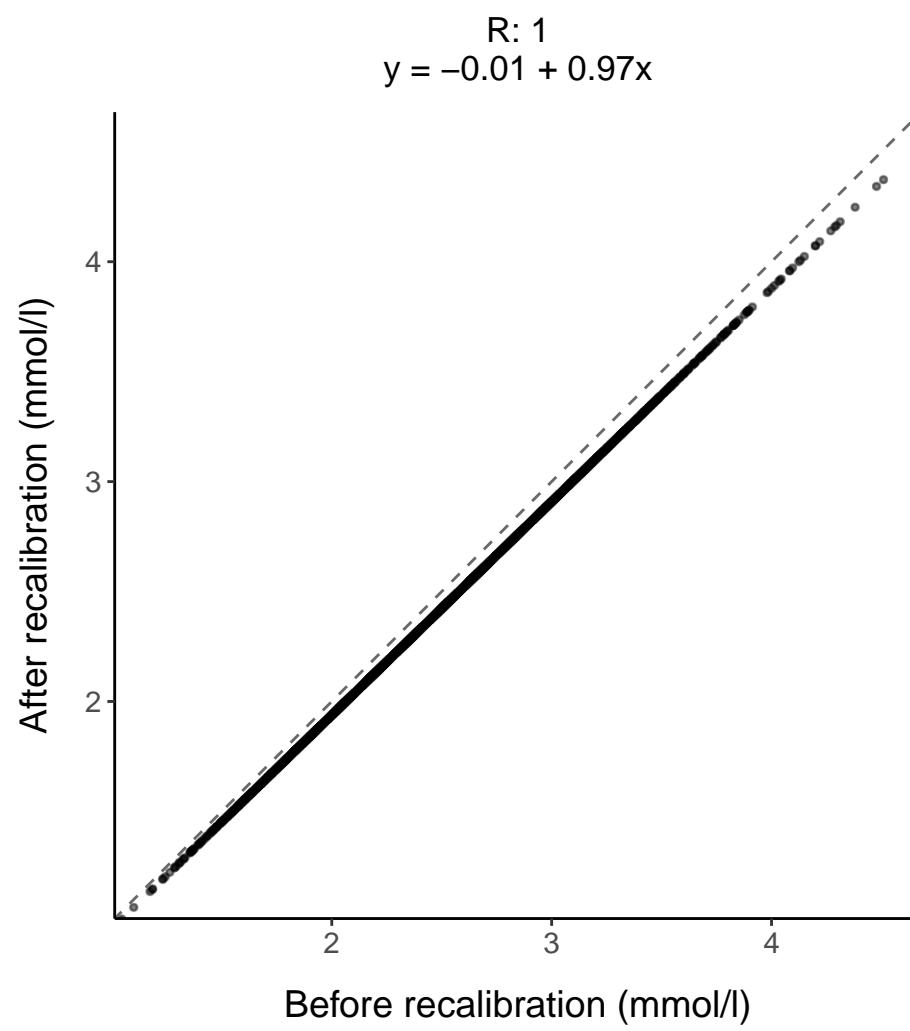


# Lipoprotein particle sizes

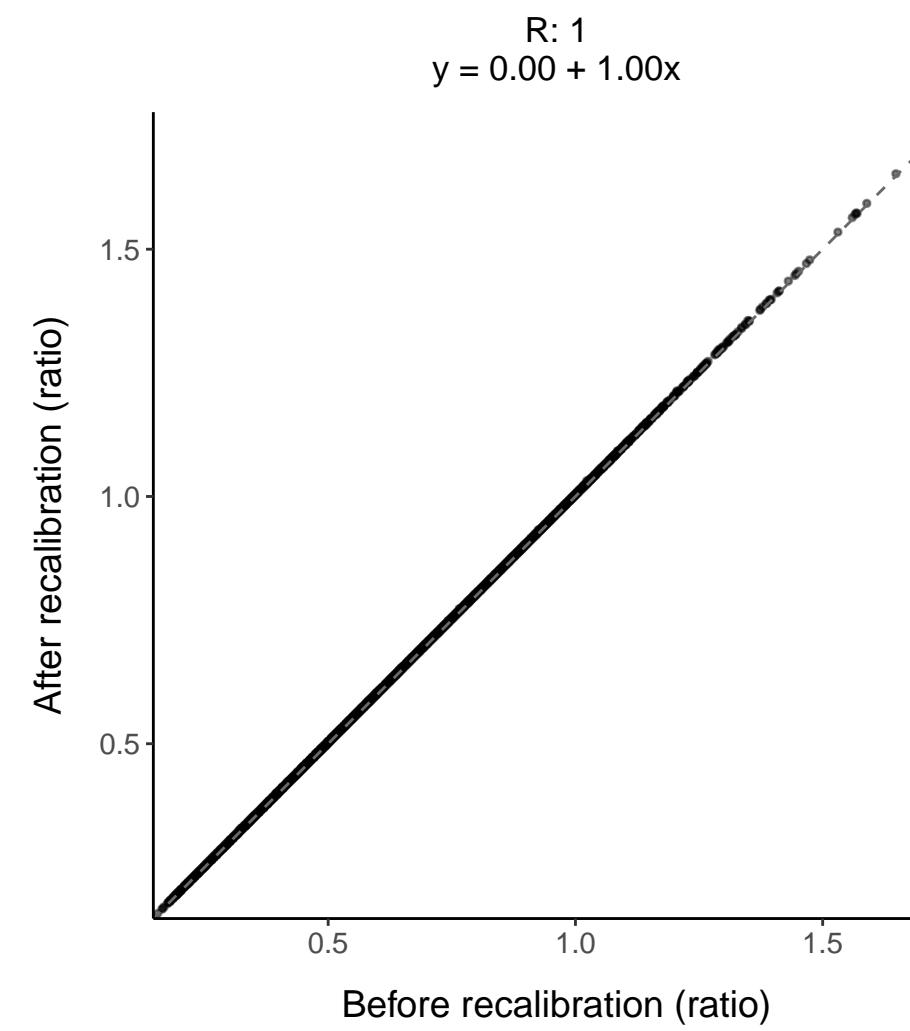


## Other lipids

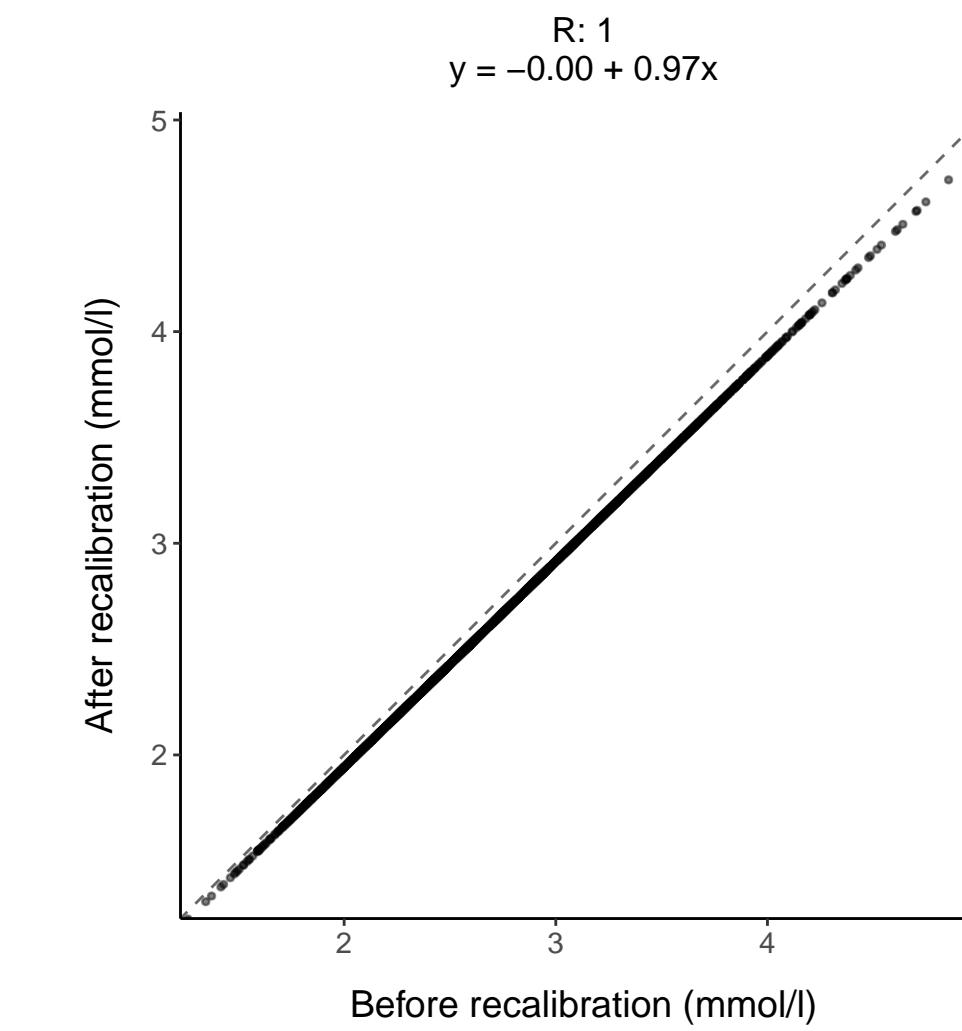
**Phosphoglyc**



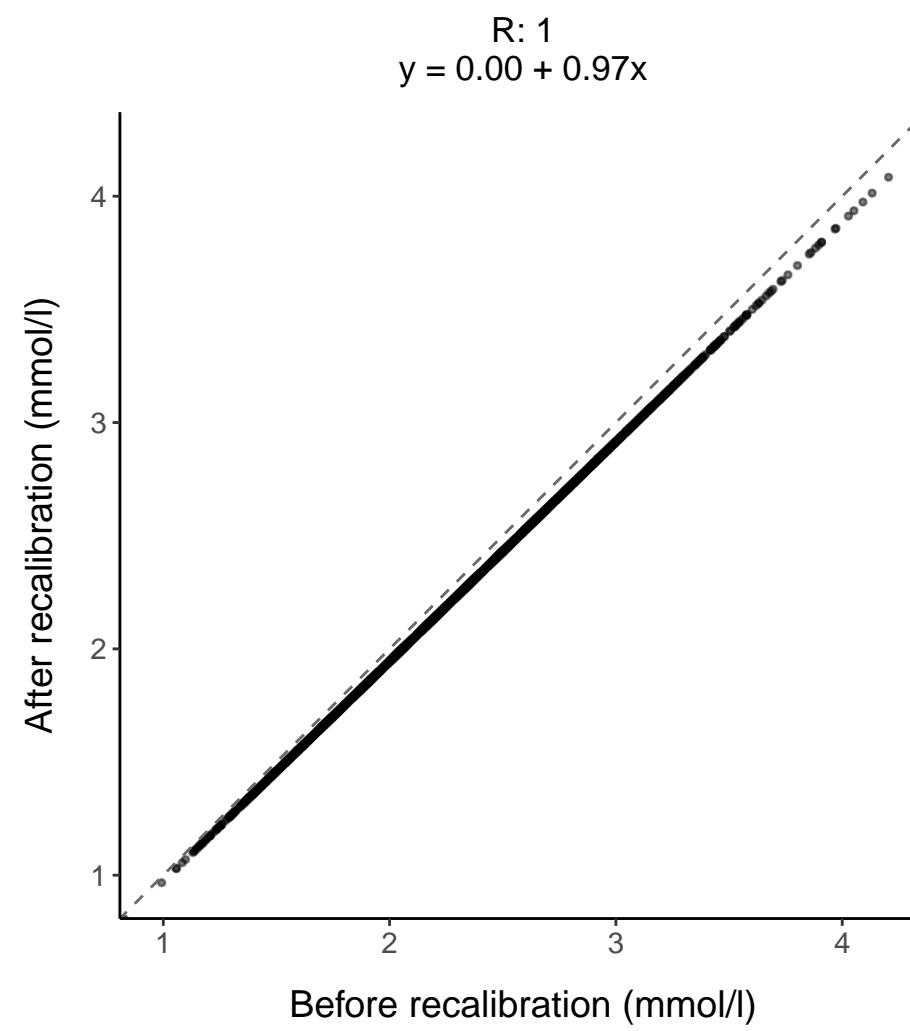
**TG\_by\_PG**



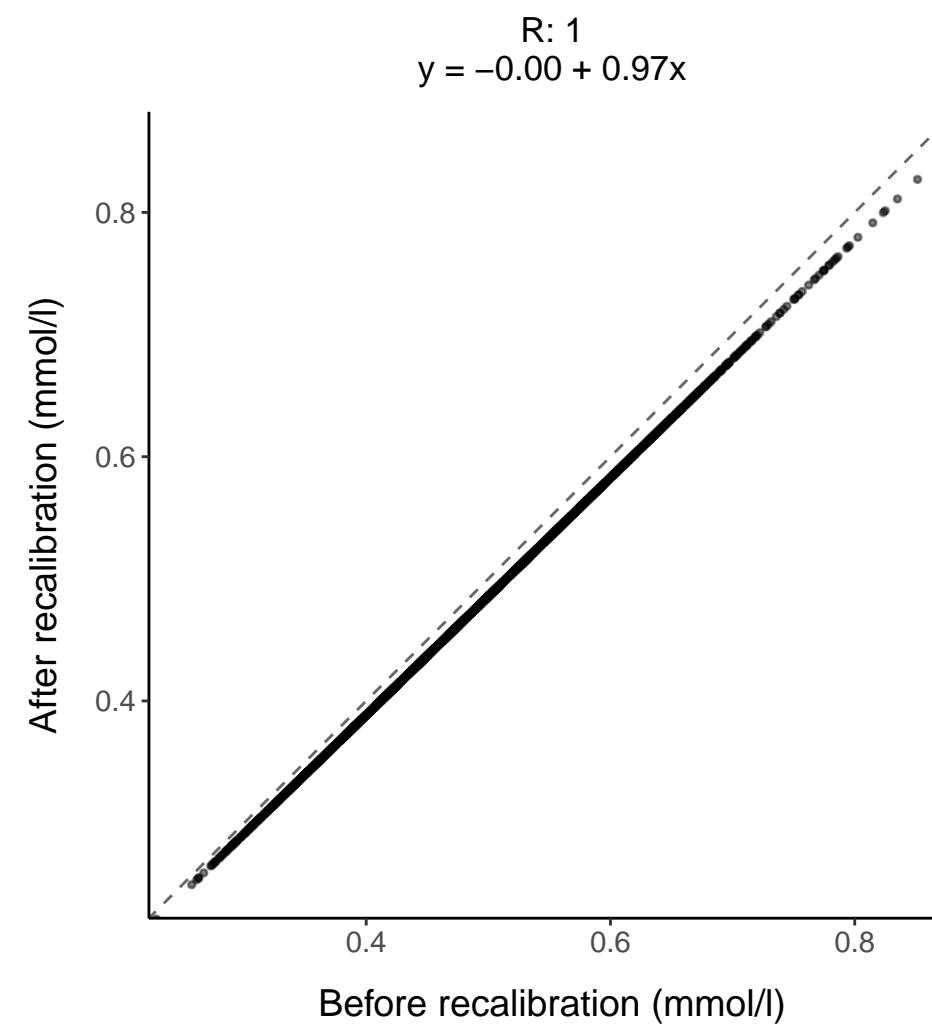
**Cholines**



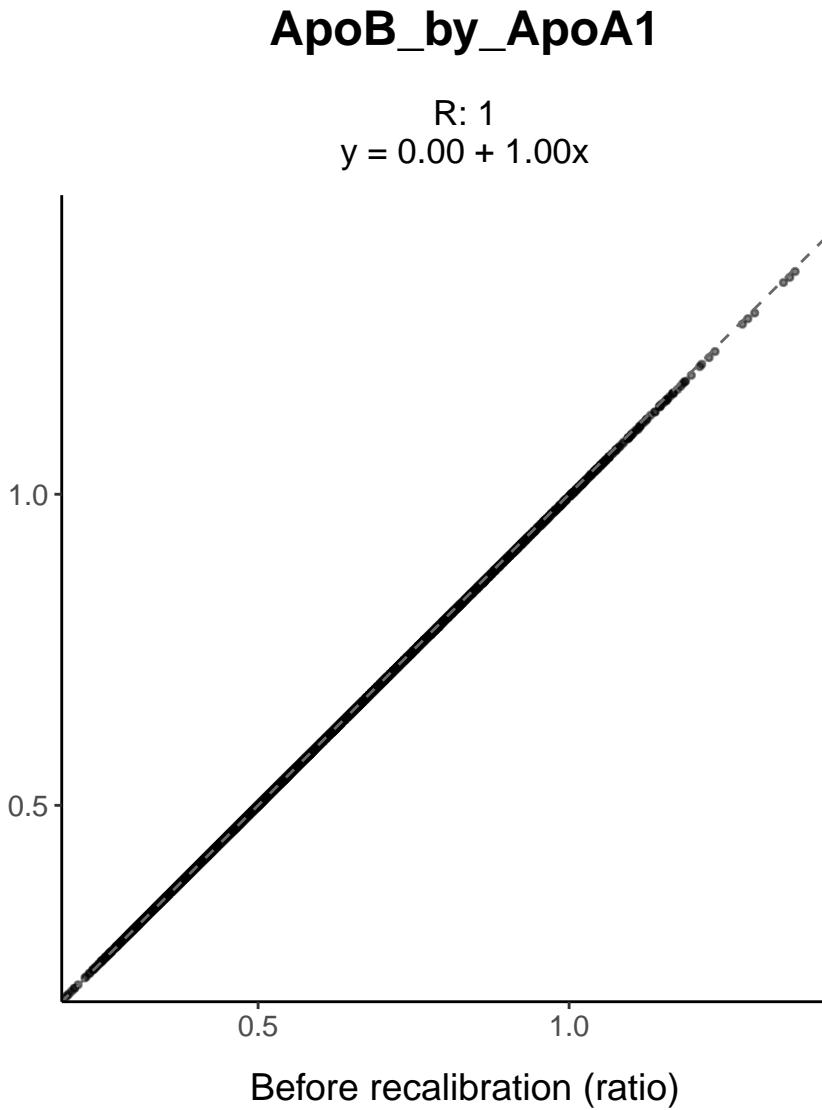
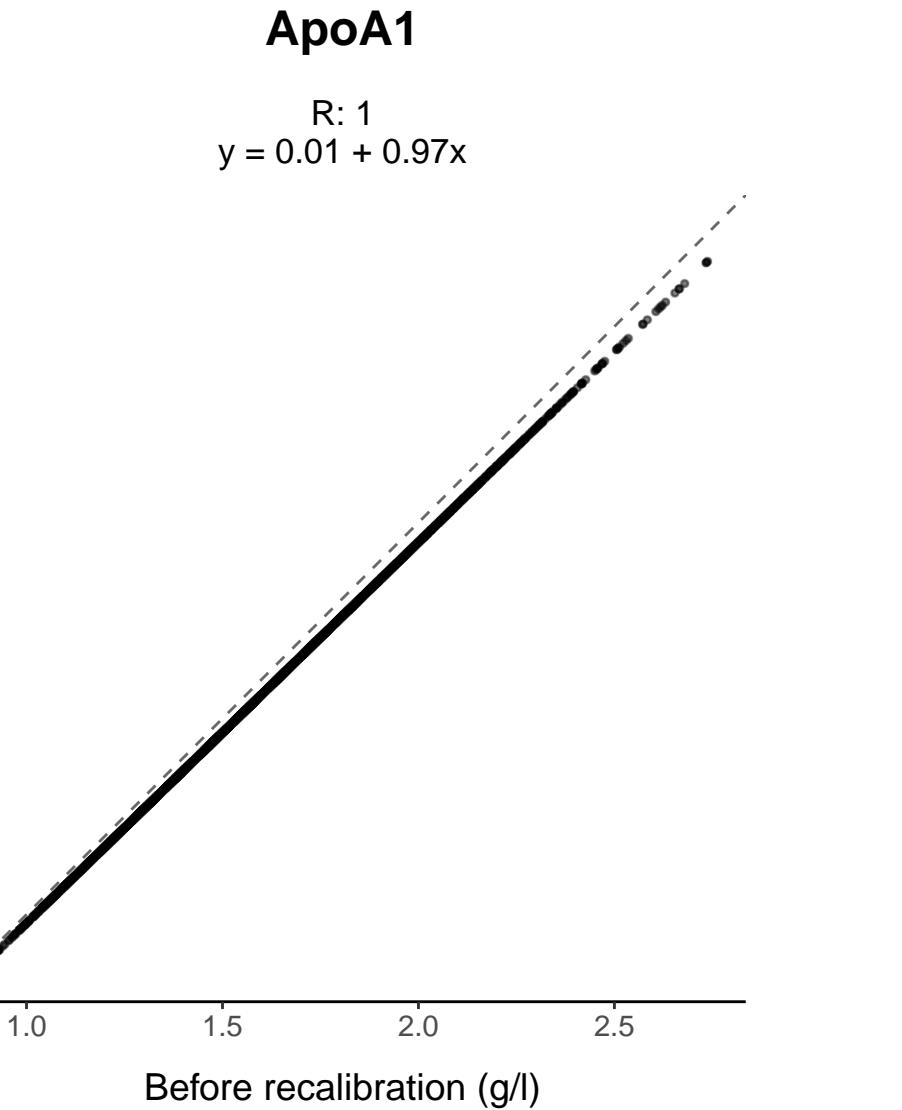
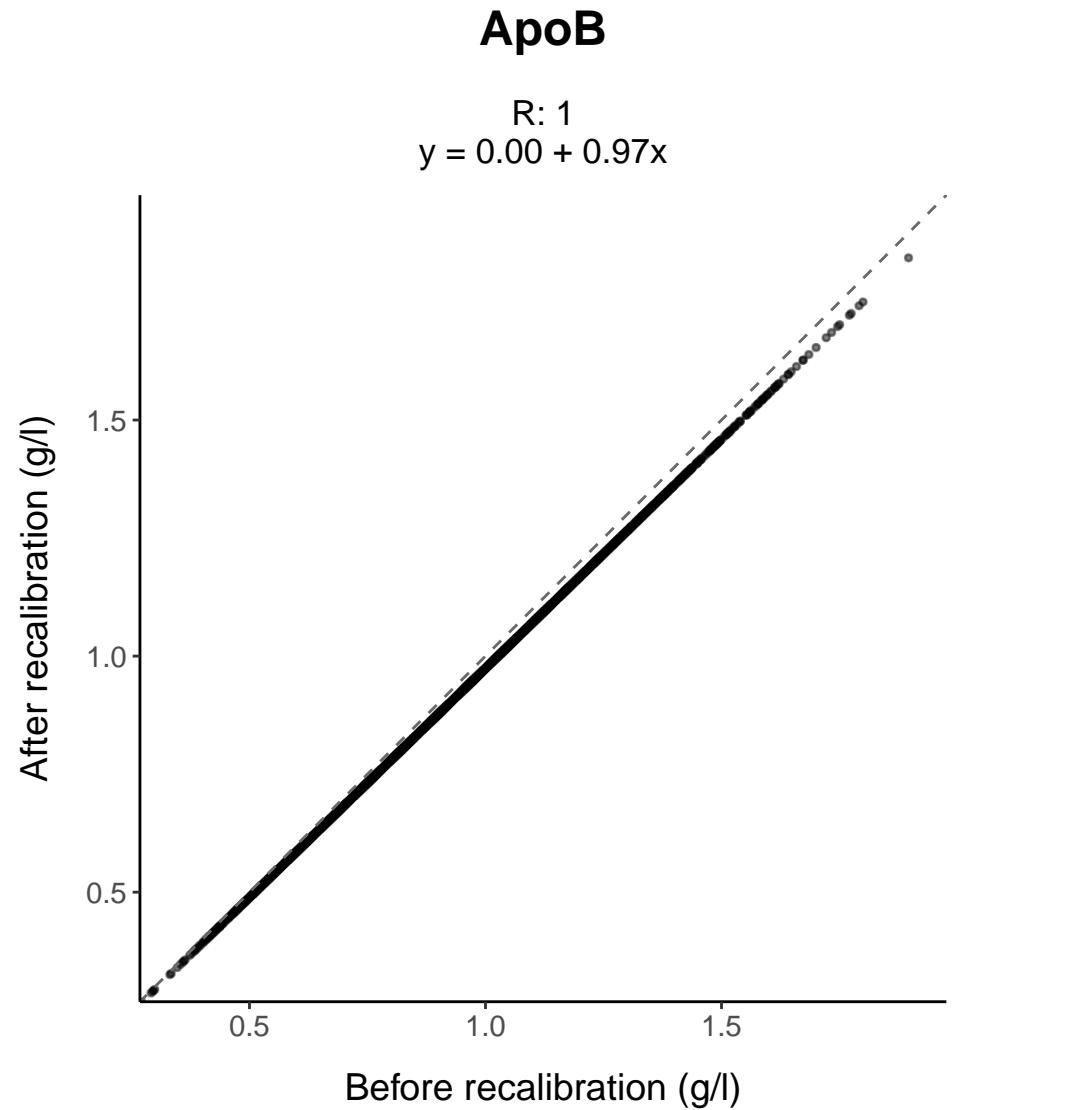
**Phosphatidylc**



**Sphingomyelins**

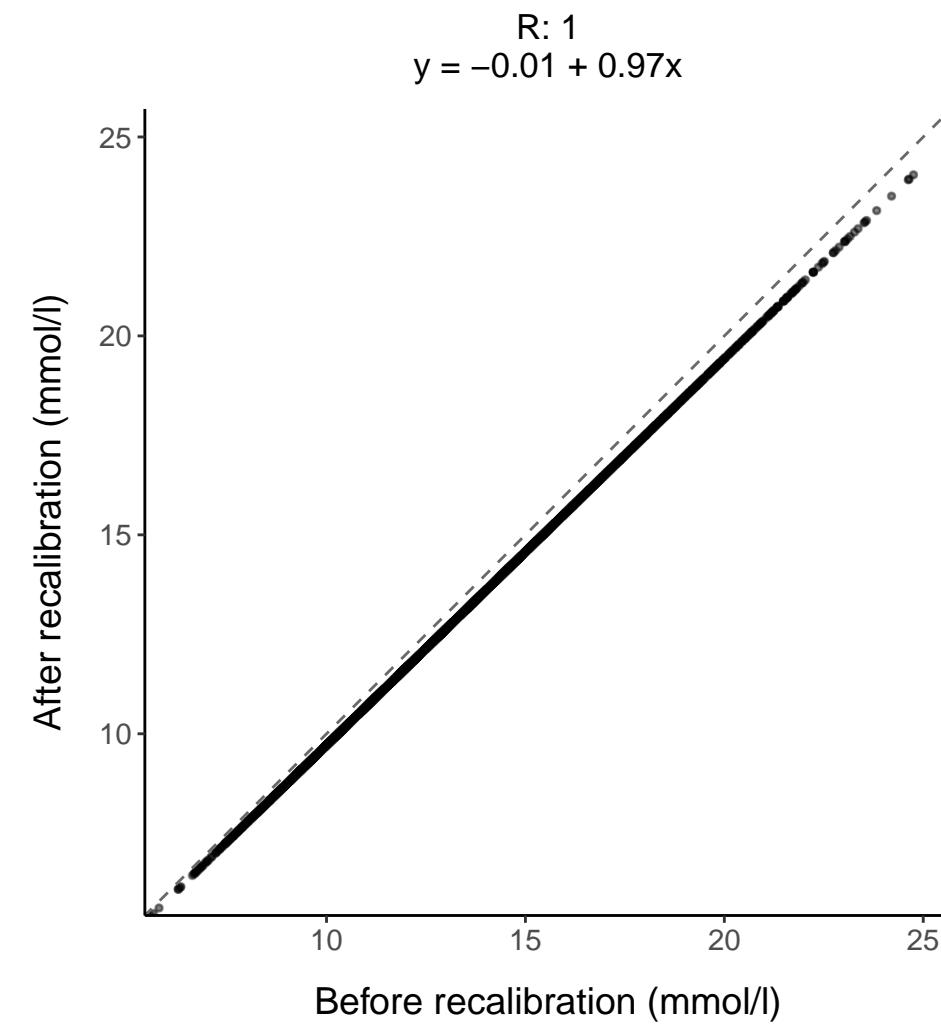


# Apolipoproteins

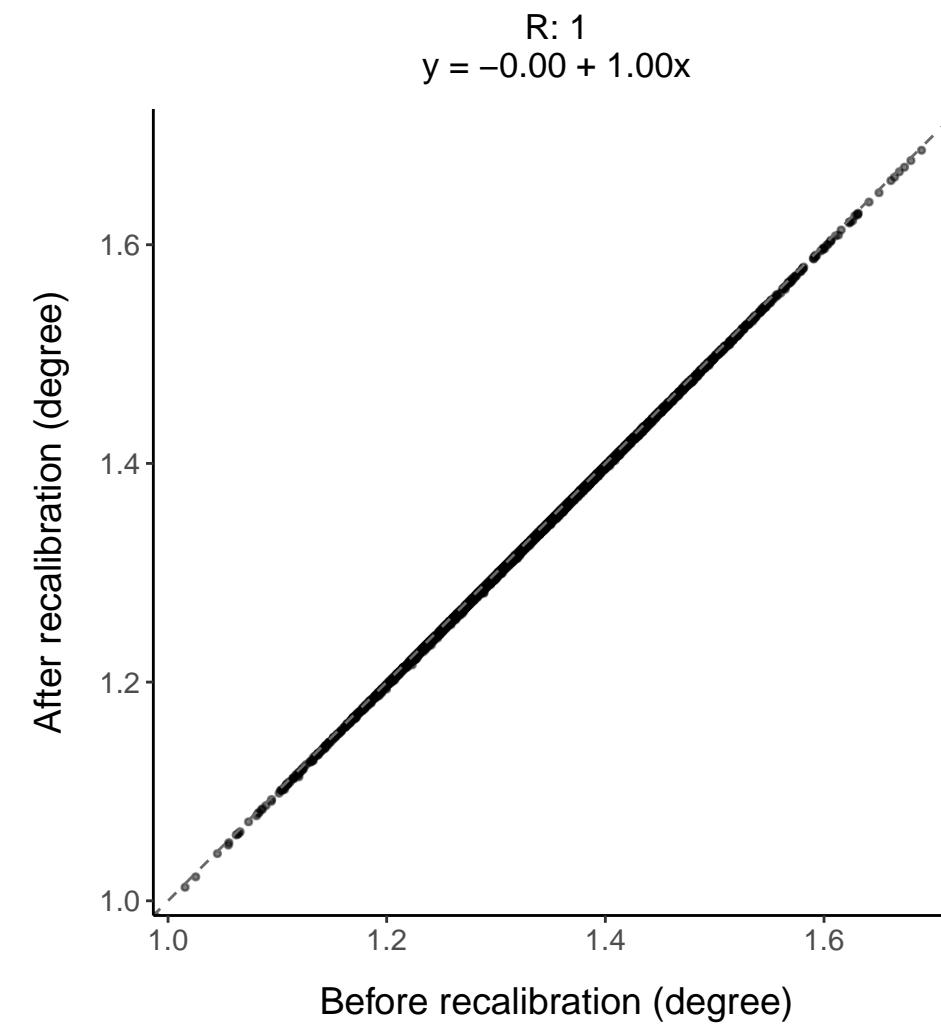


## Fatty acids

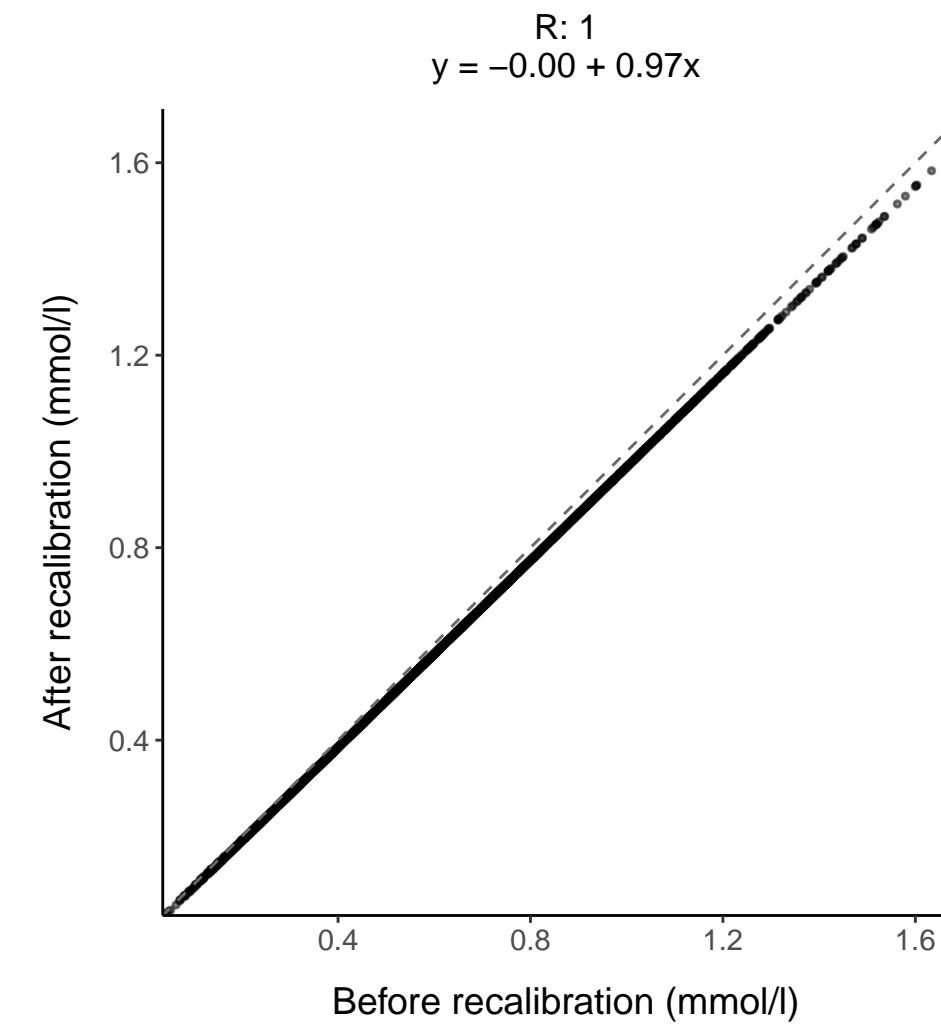
**Total\_FA**



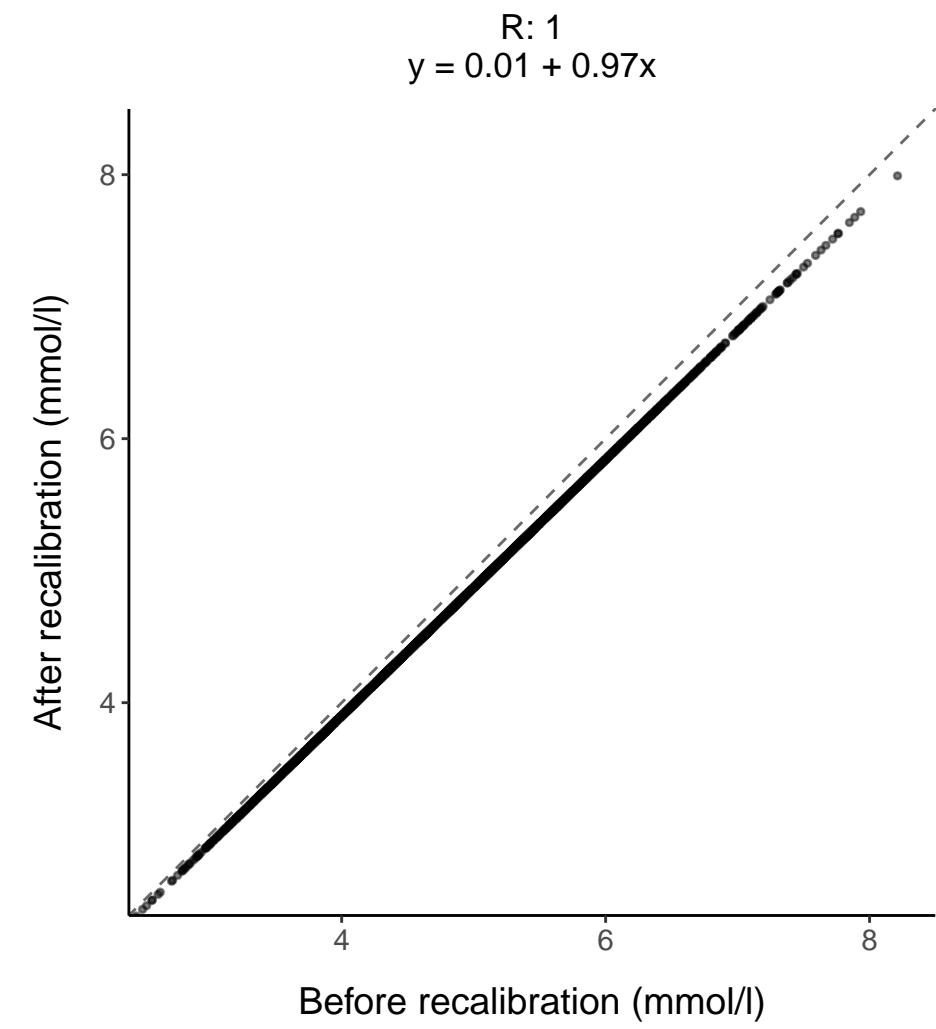
**Unsaturation**



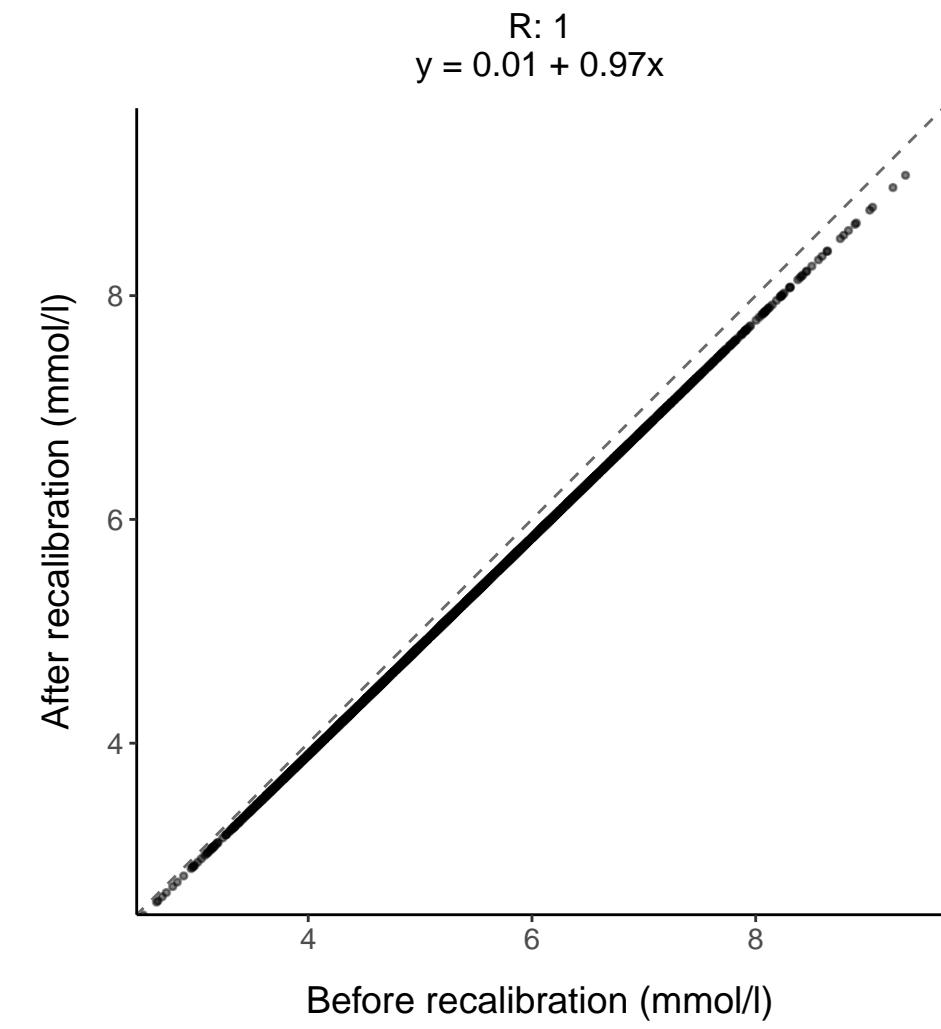
**Omega\_3**



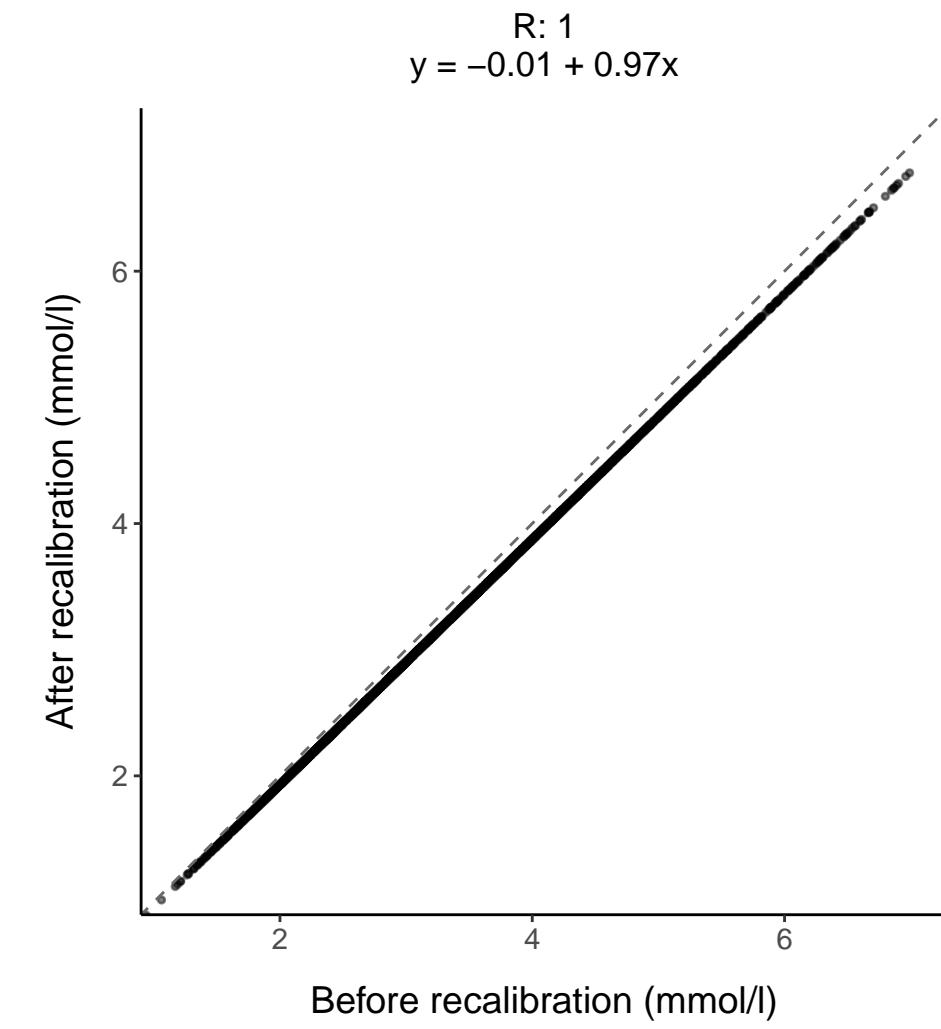
**Omega\_6**



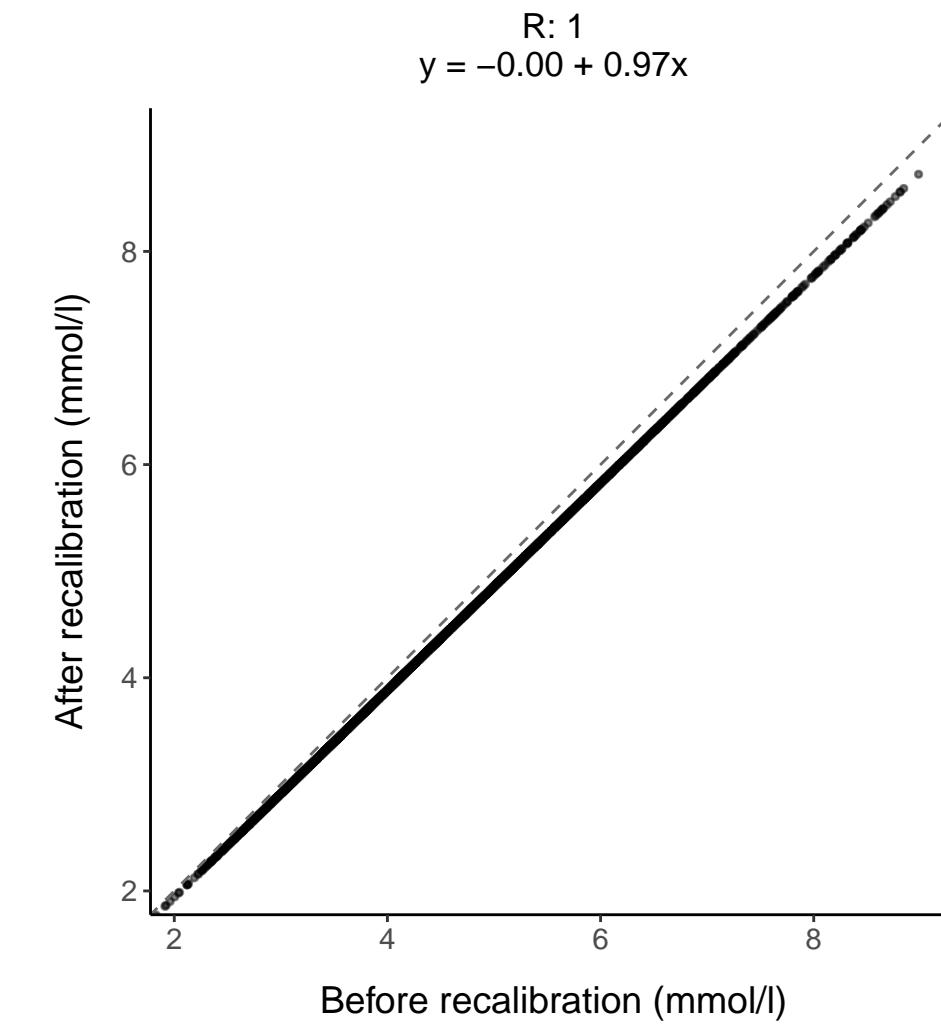
**PUFA**



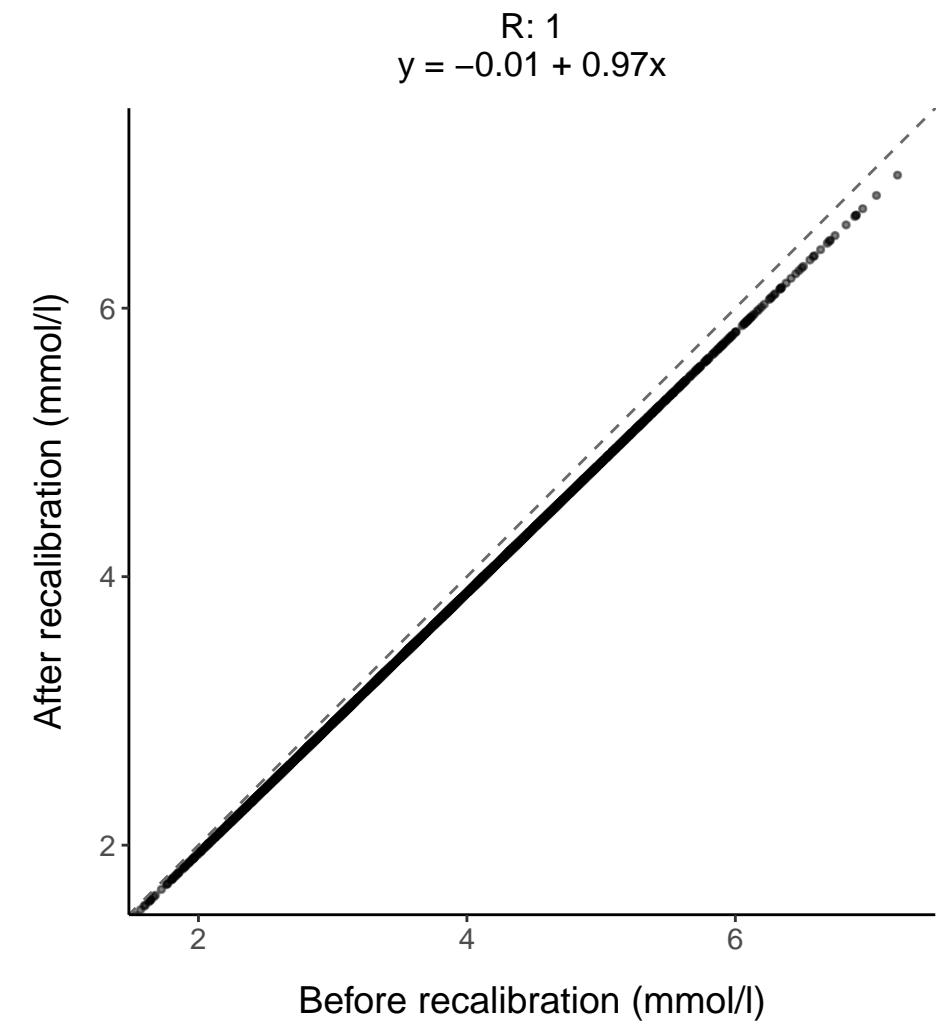
**MUFA**



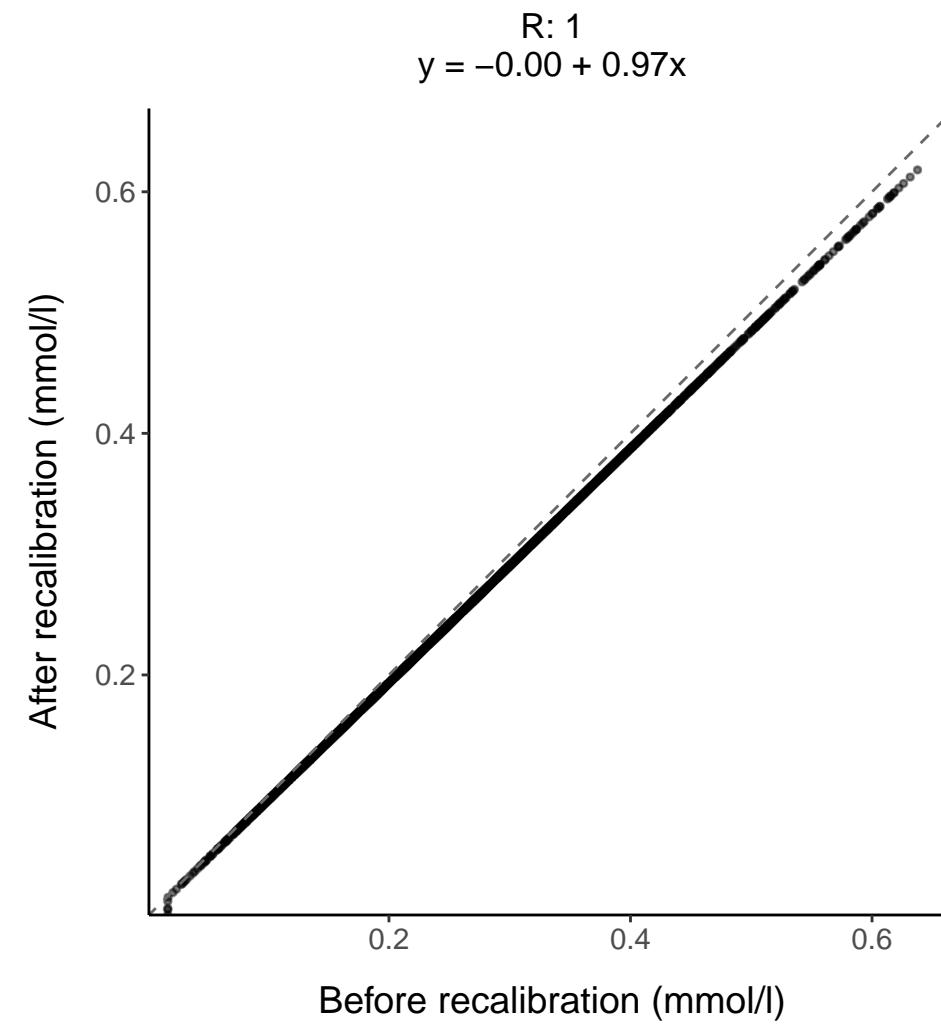
**SFA**



**LA**

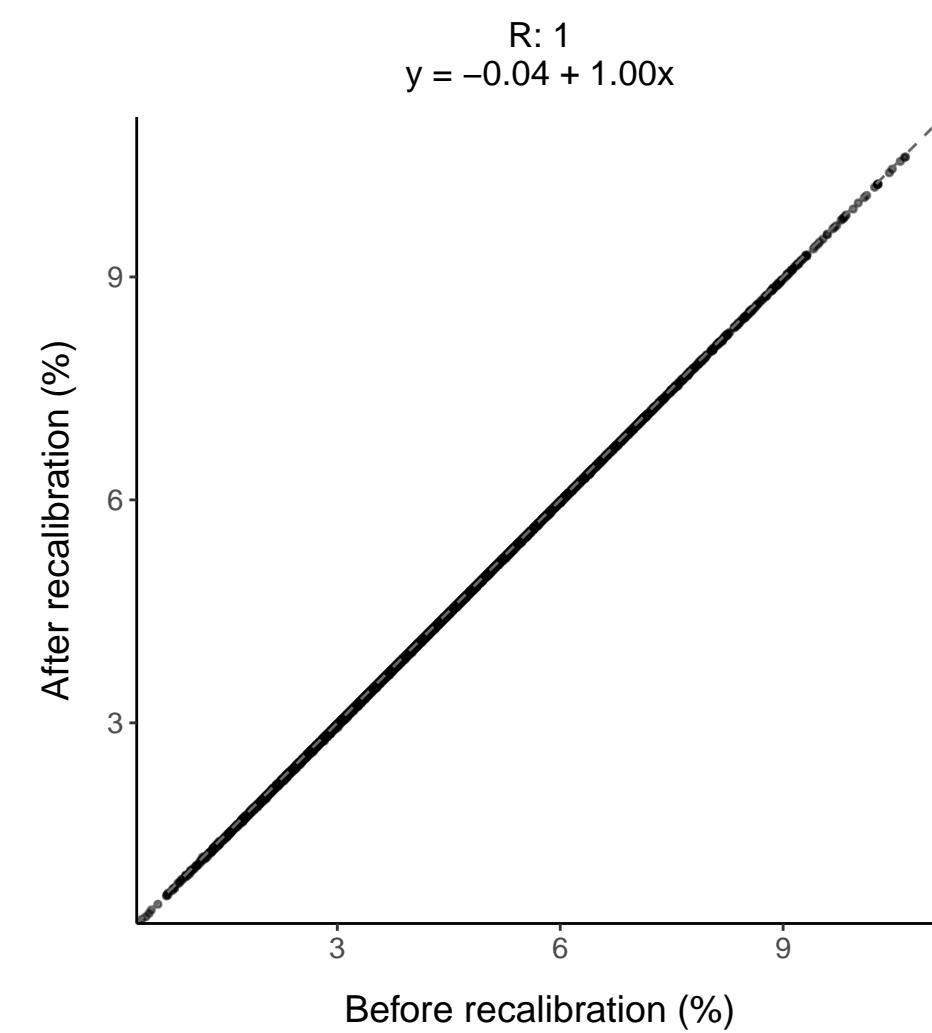


**DHA**

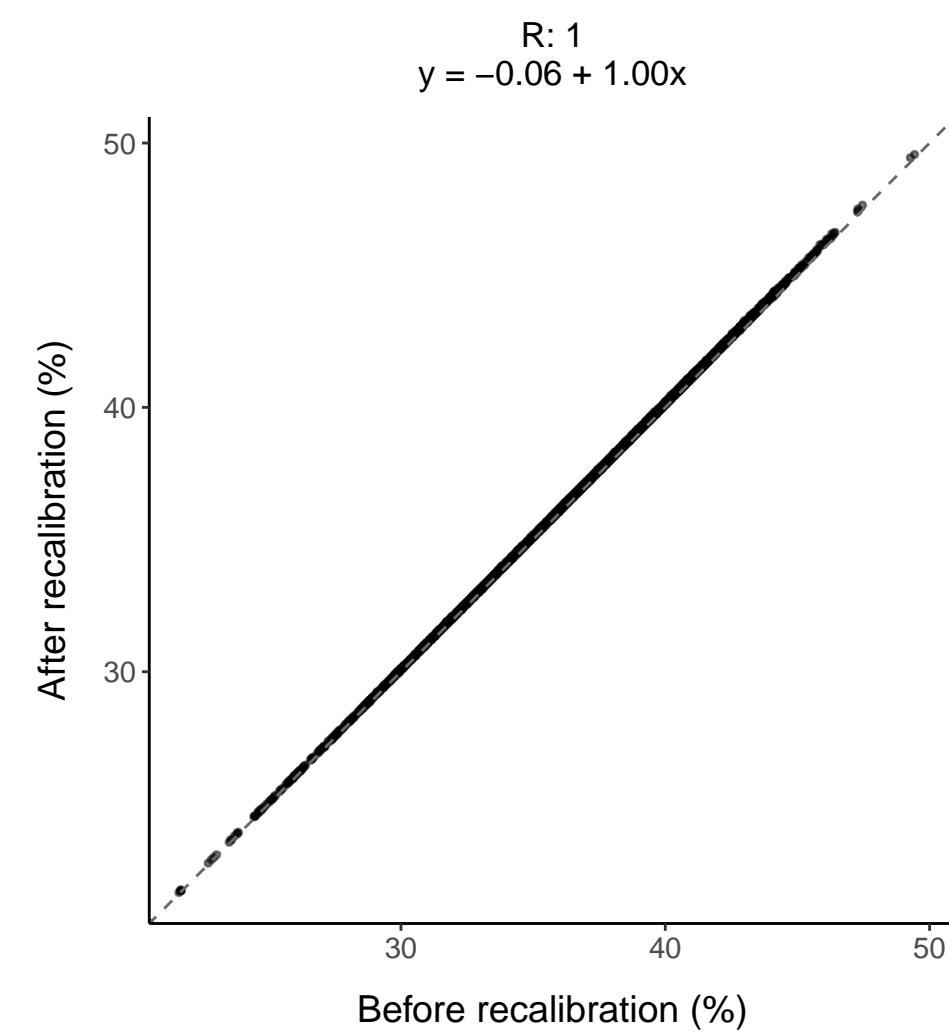


## Fatty acid ratios

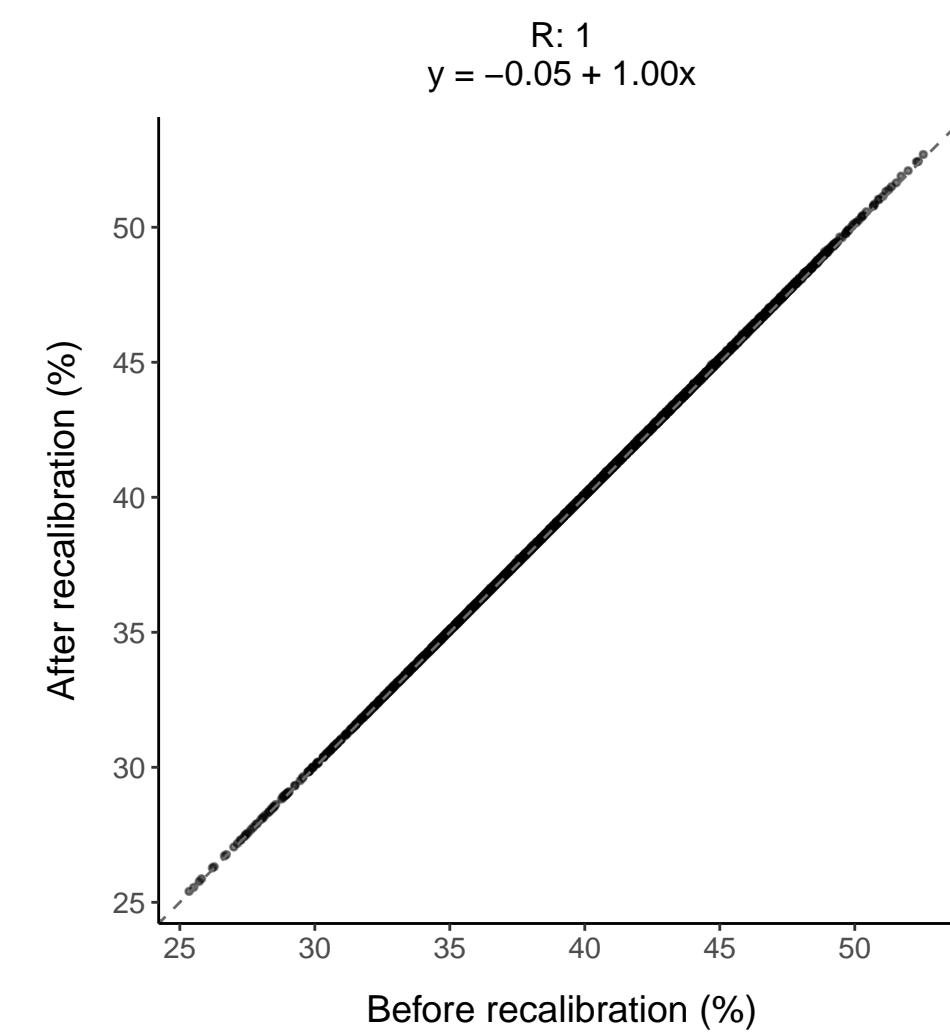
**Omega\_3\_pct**



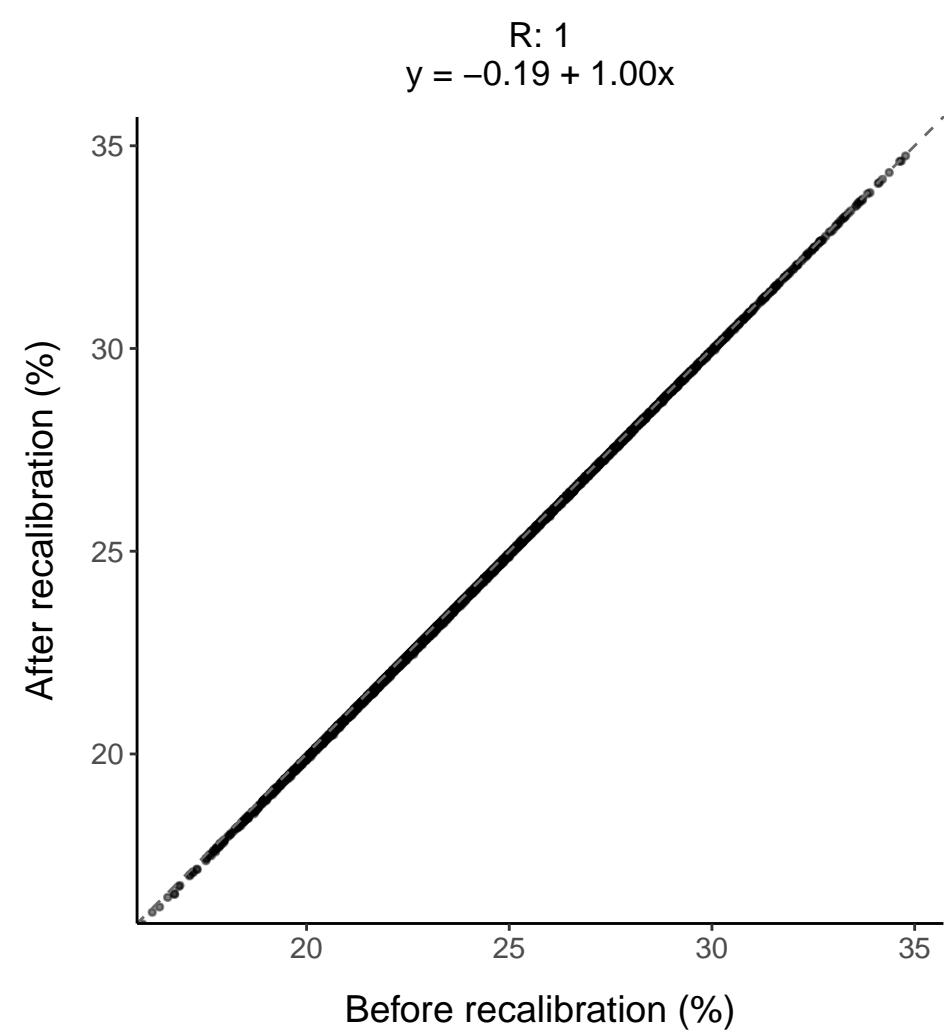
**Omega\_6\_pct**



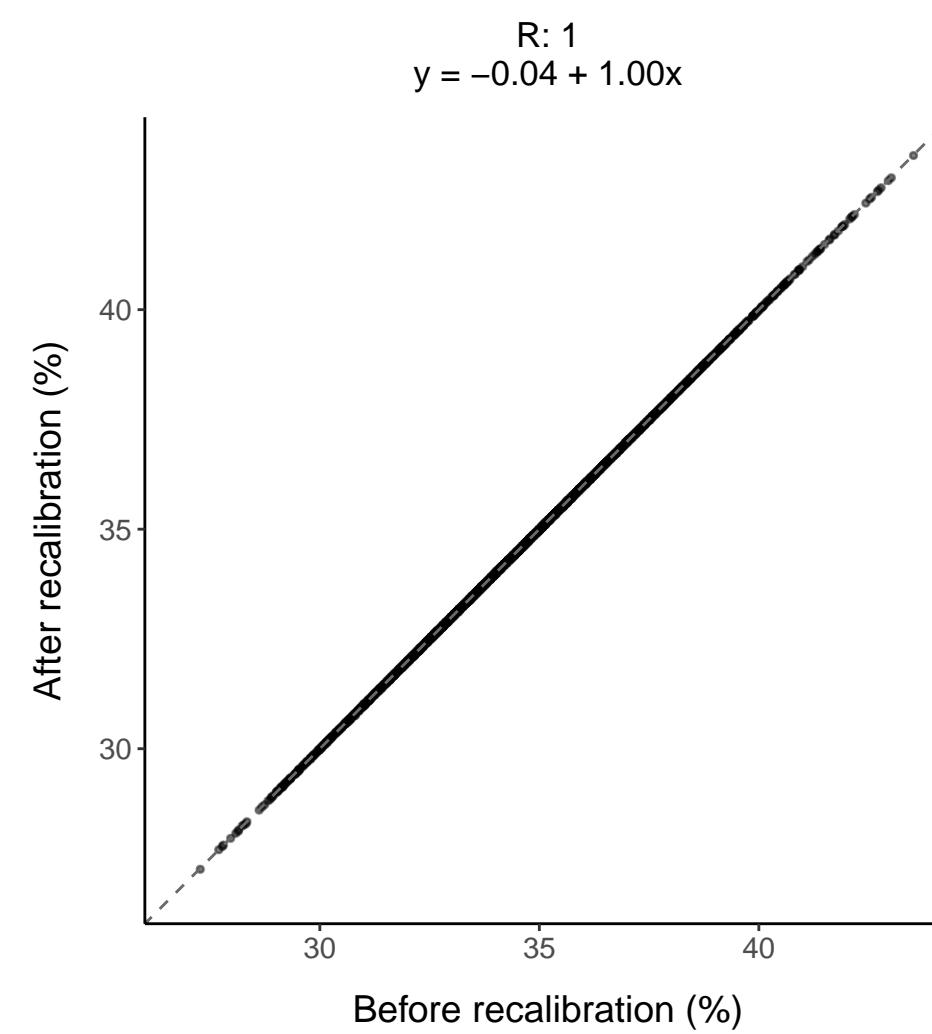
**PUFA\_pct**



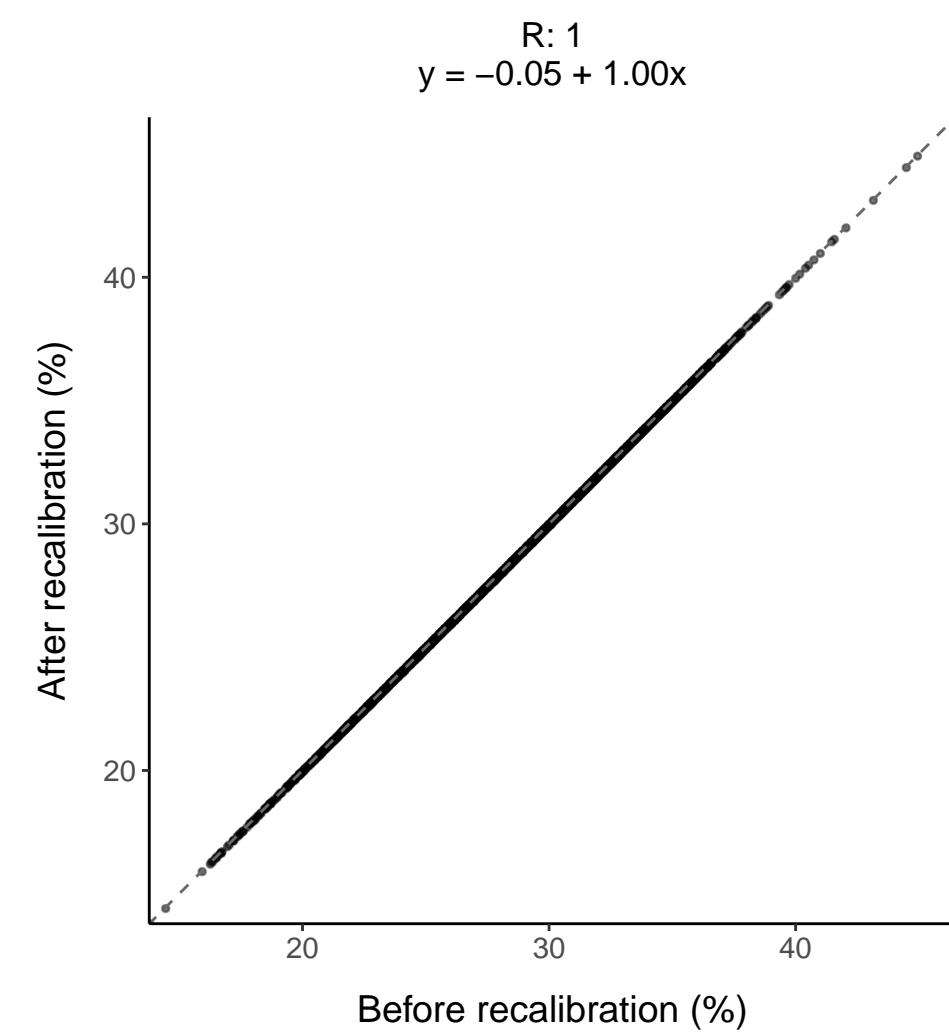
**MUFA\_pct**



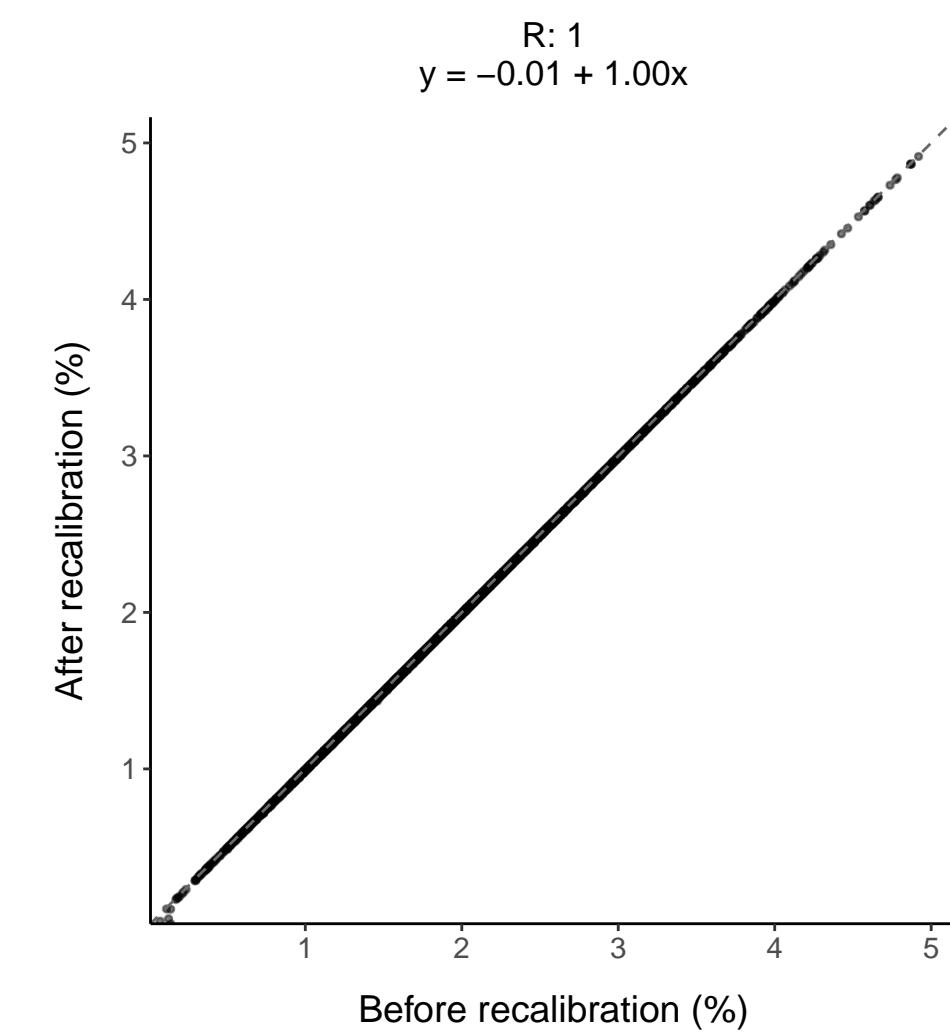
**SFA\_pct**



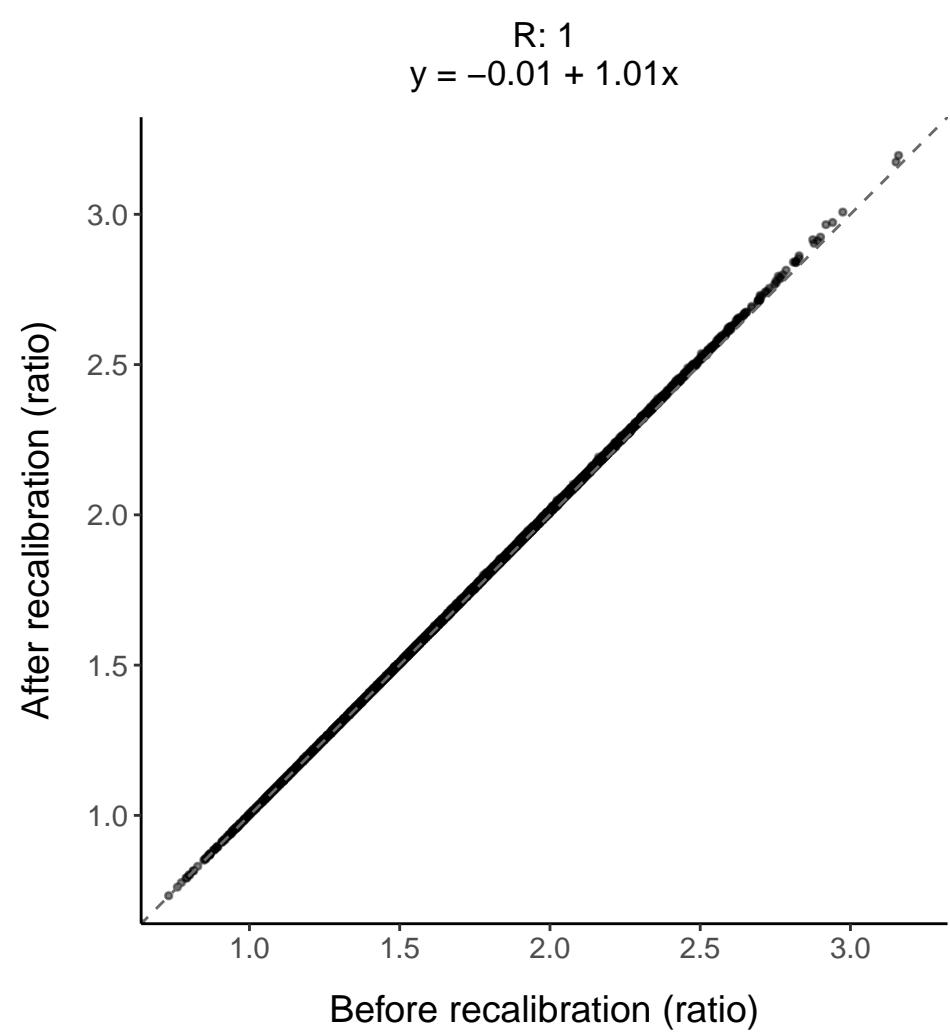
**LA\_pct**



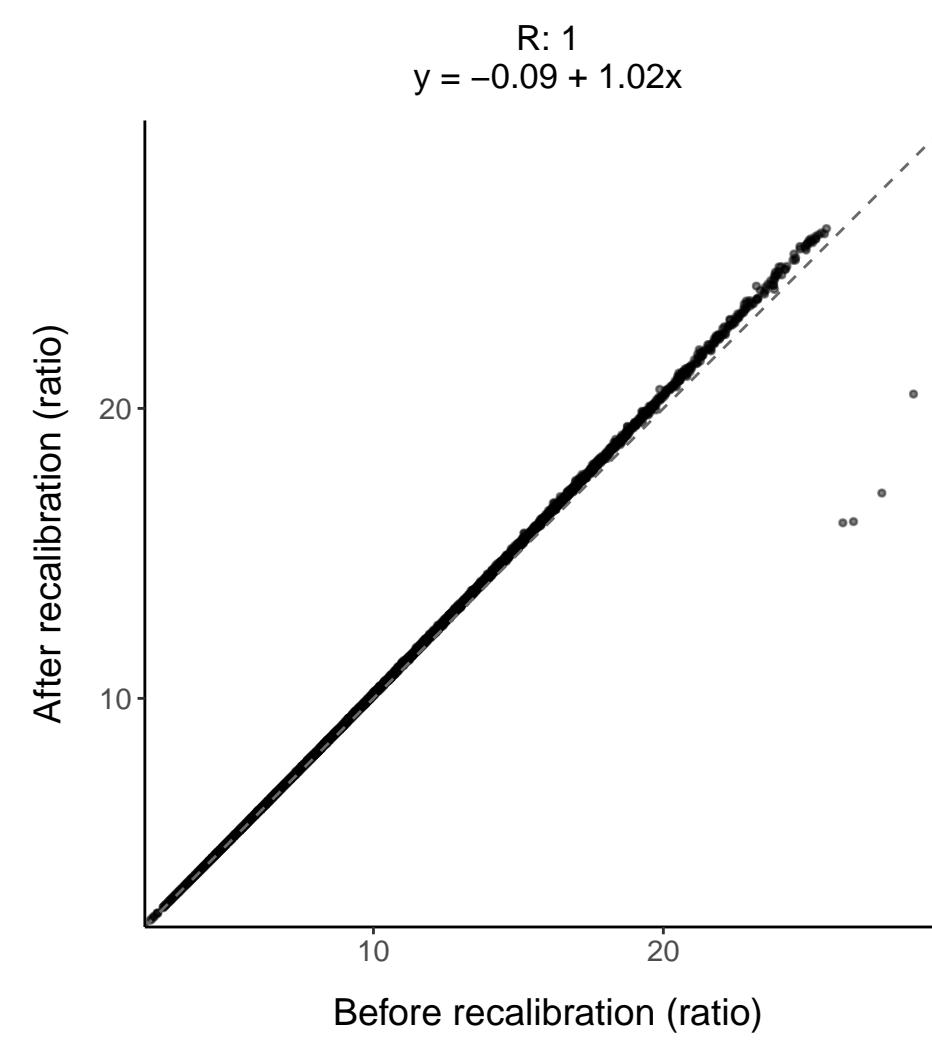
**DHA\_pct**



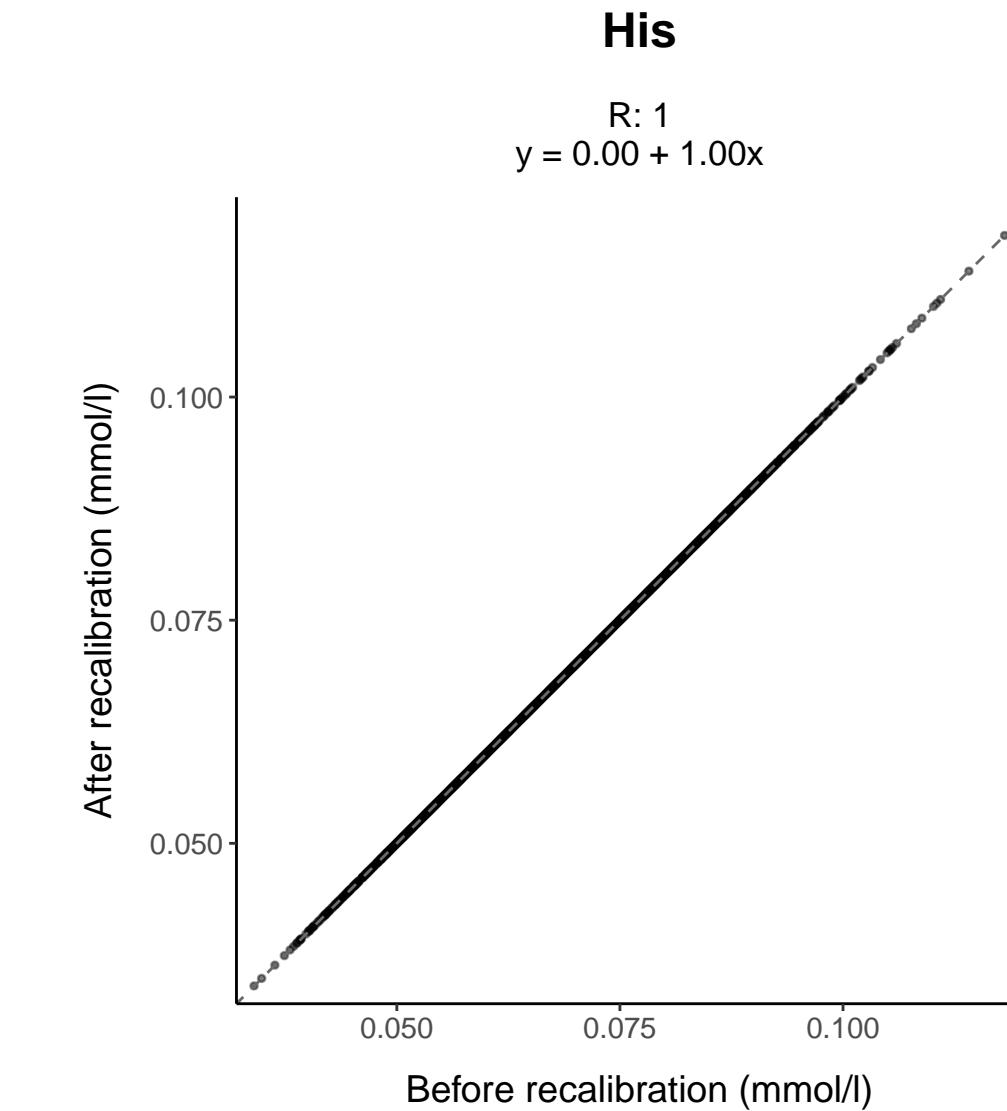
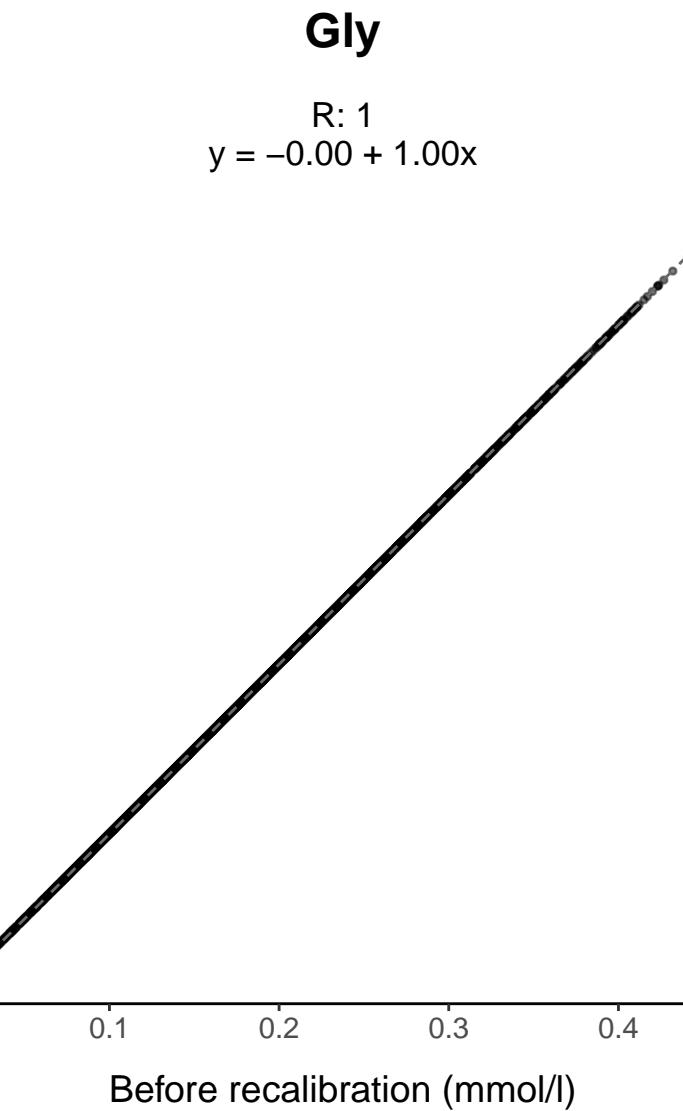
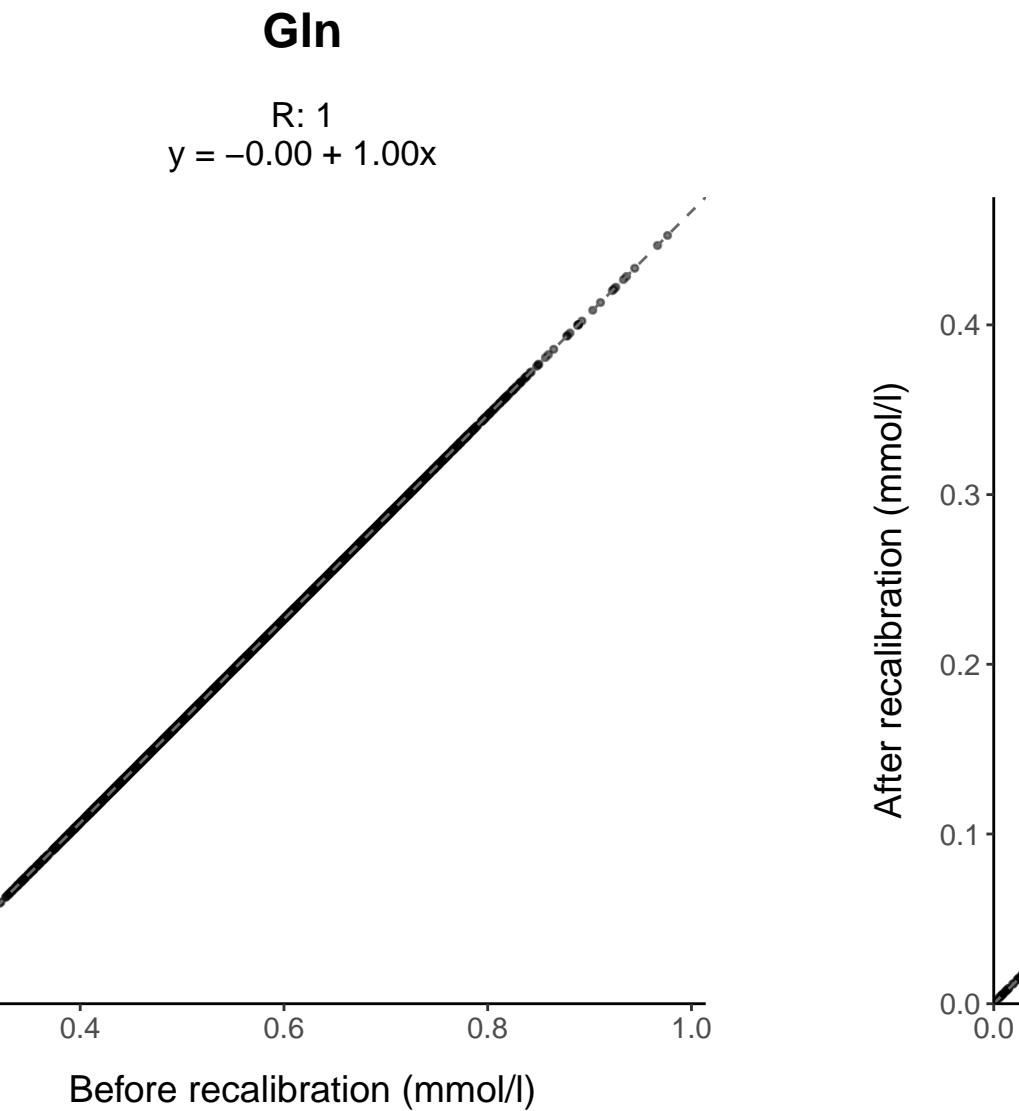
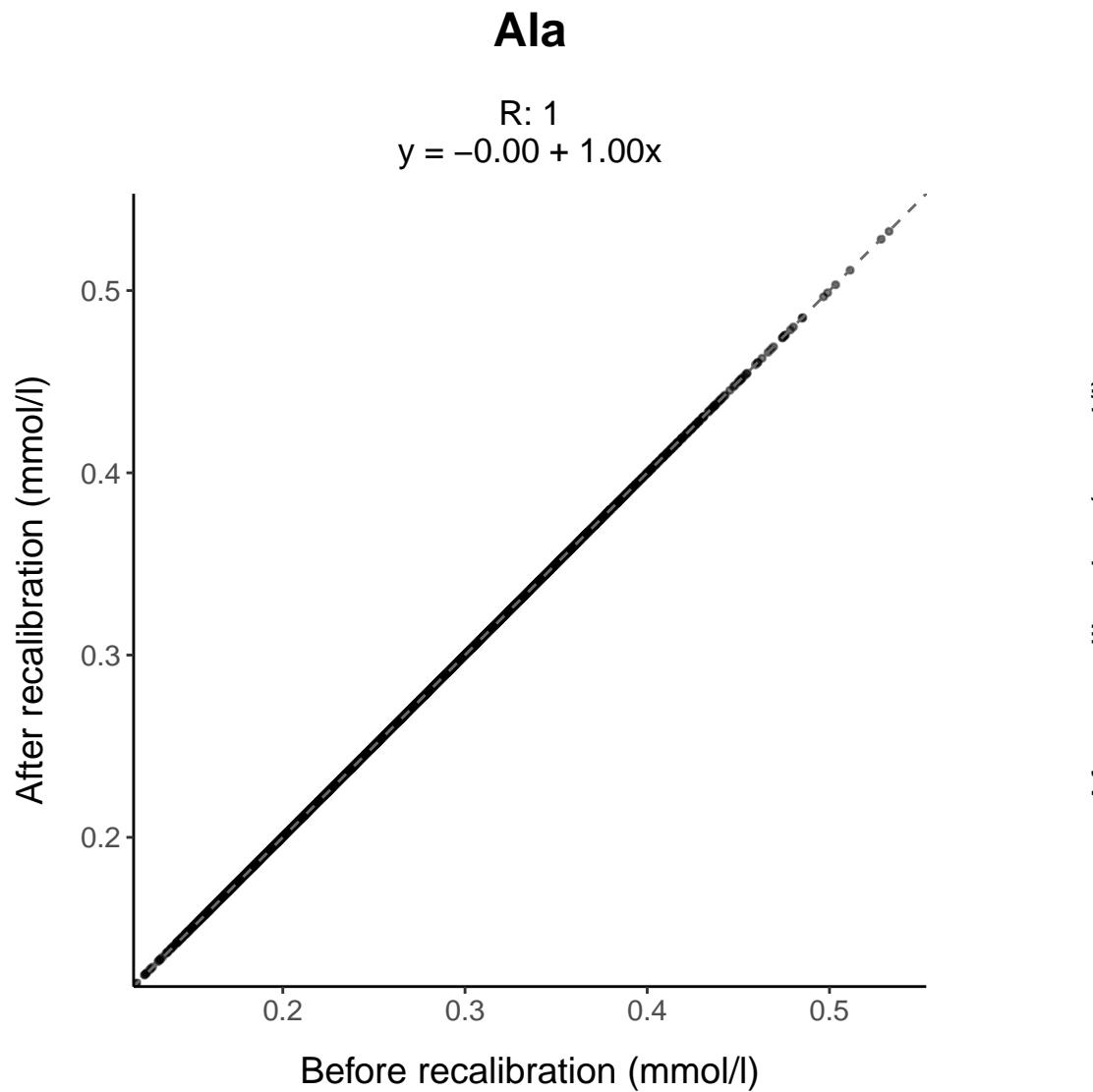
**PUFA\_by\_MUFA**



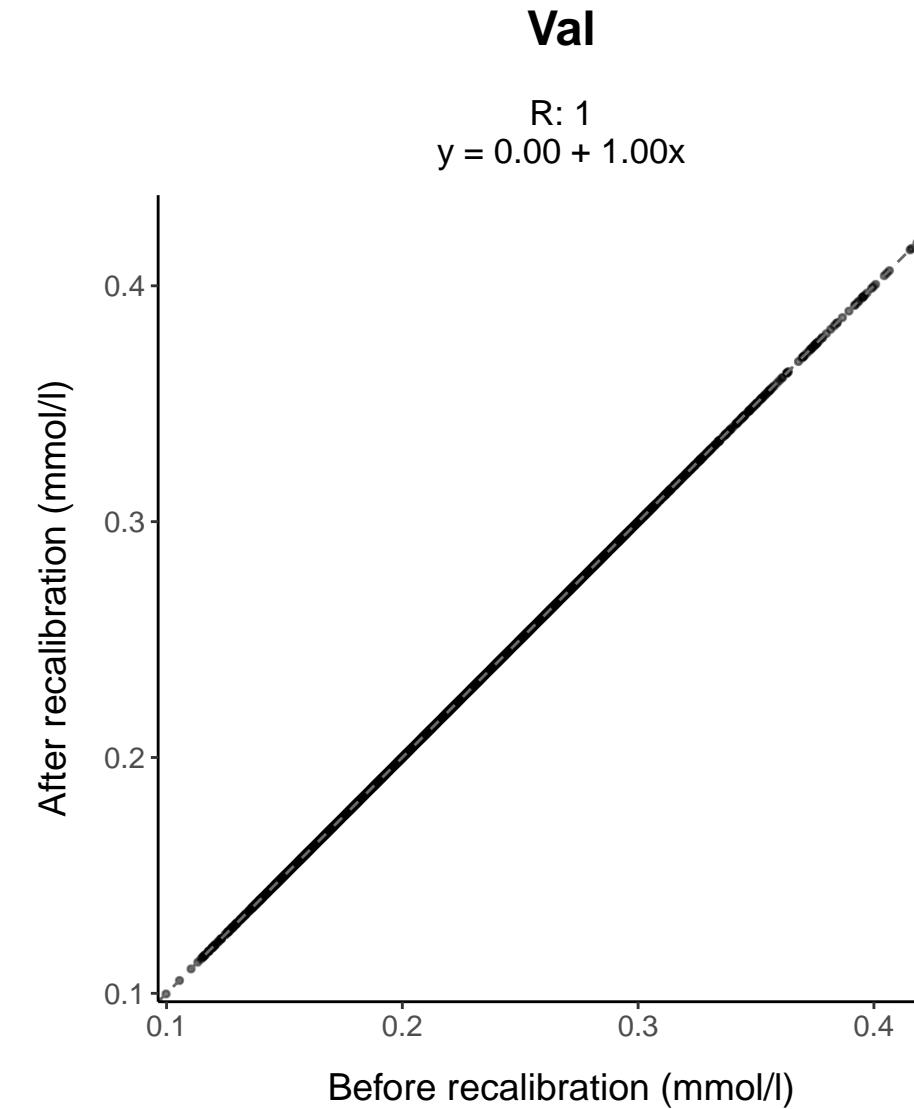
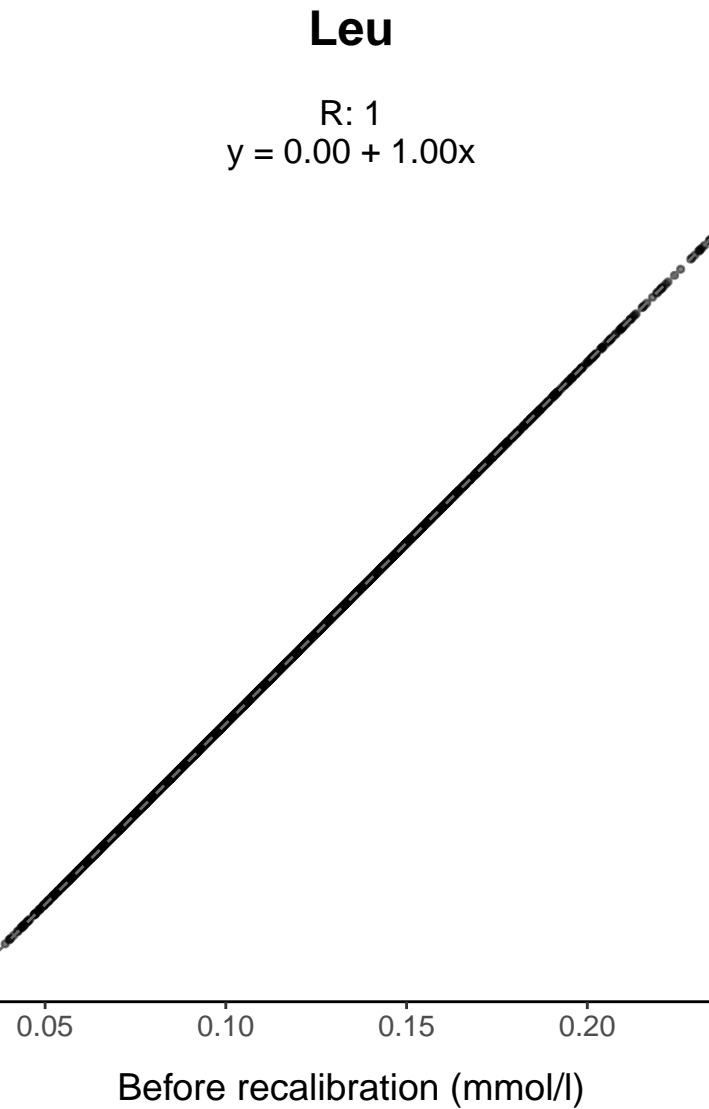
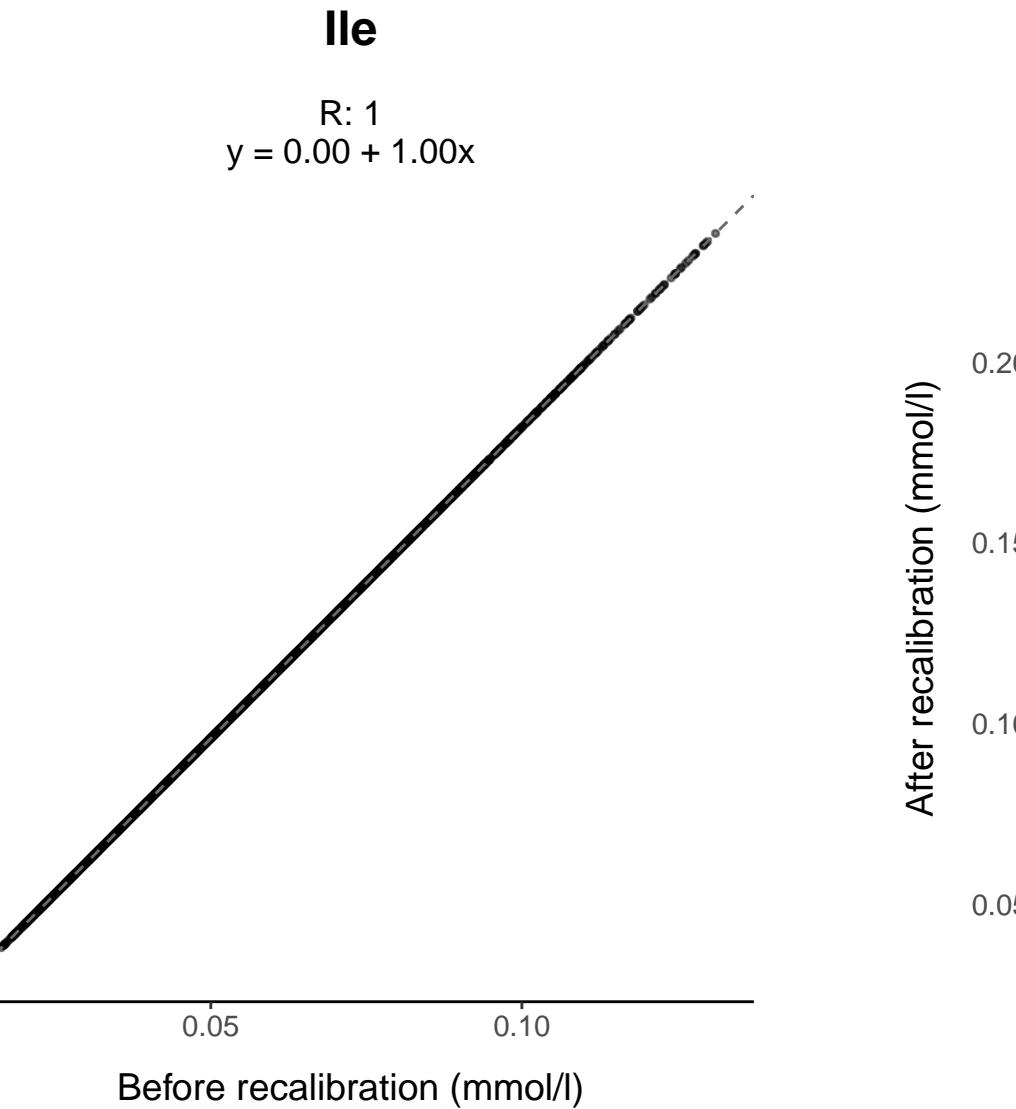
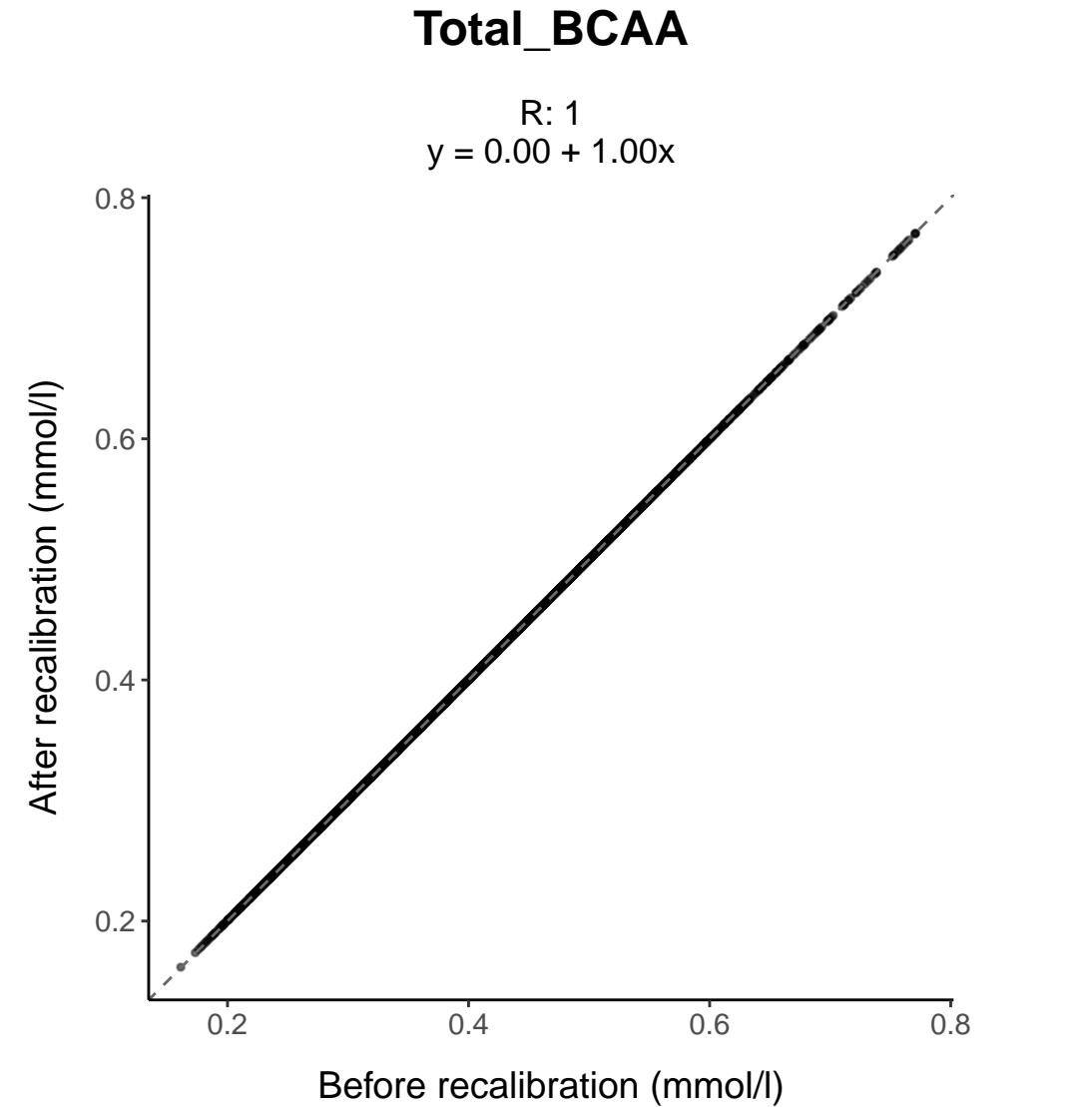
**Omega\_6\_by\_Omega\_3**



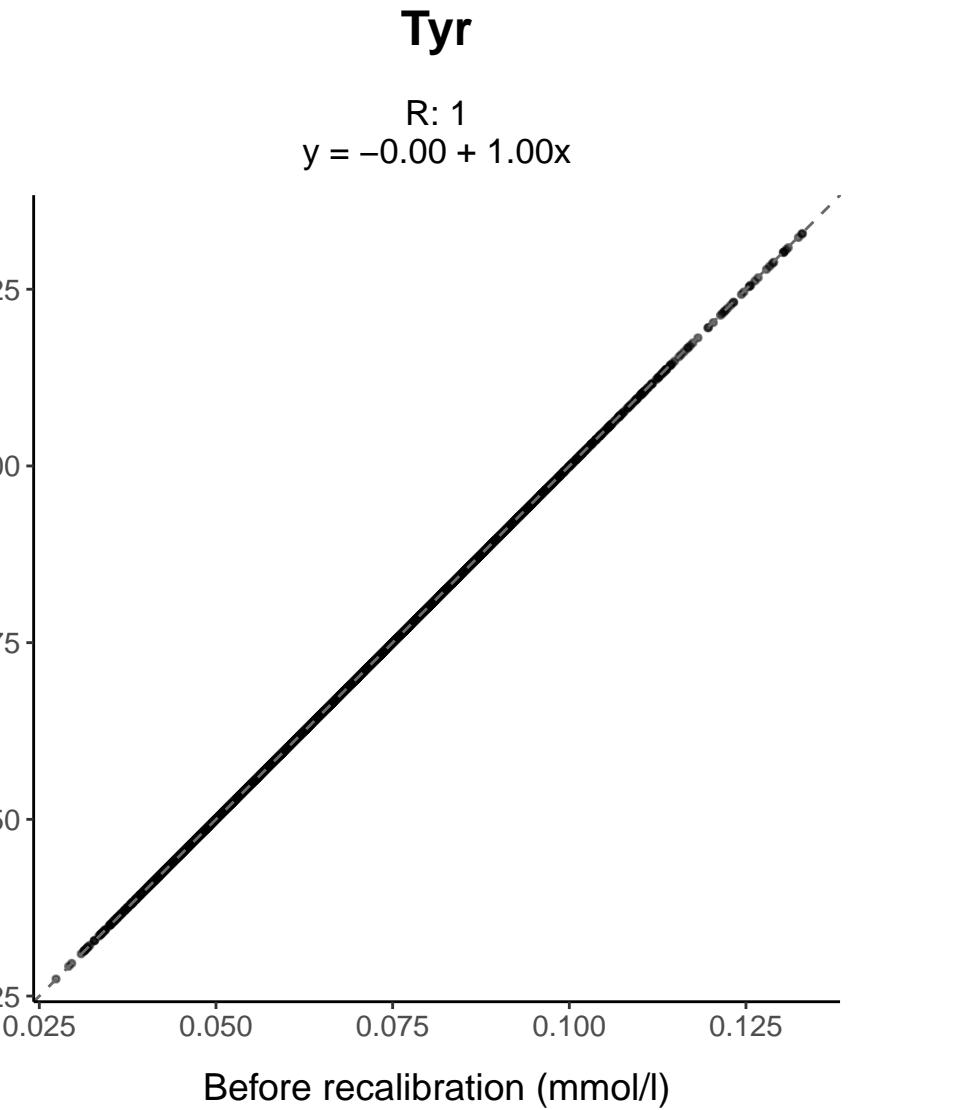
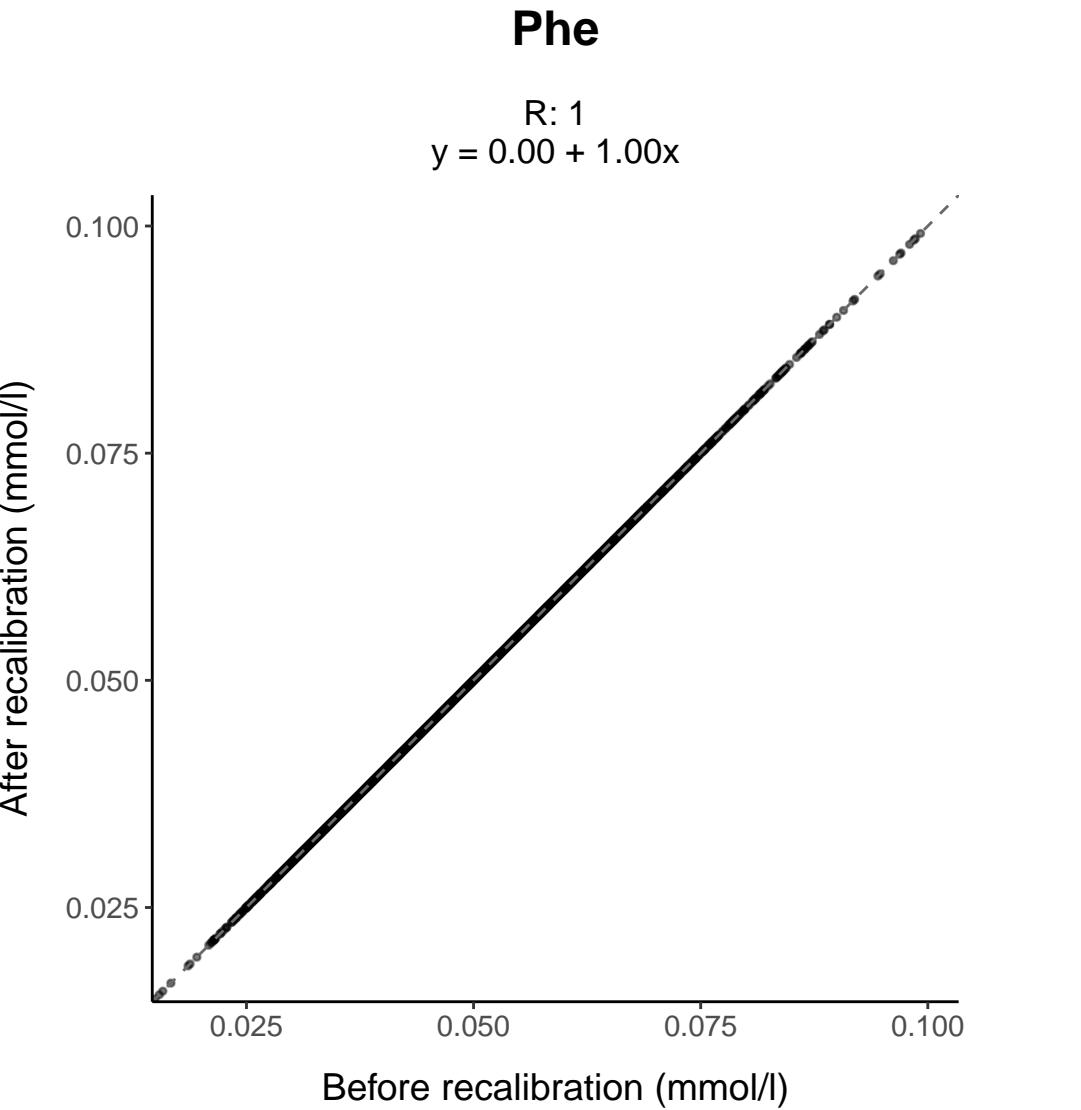
## Amino acids



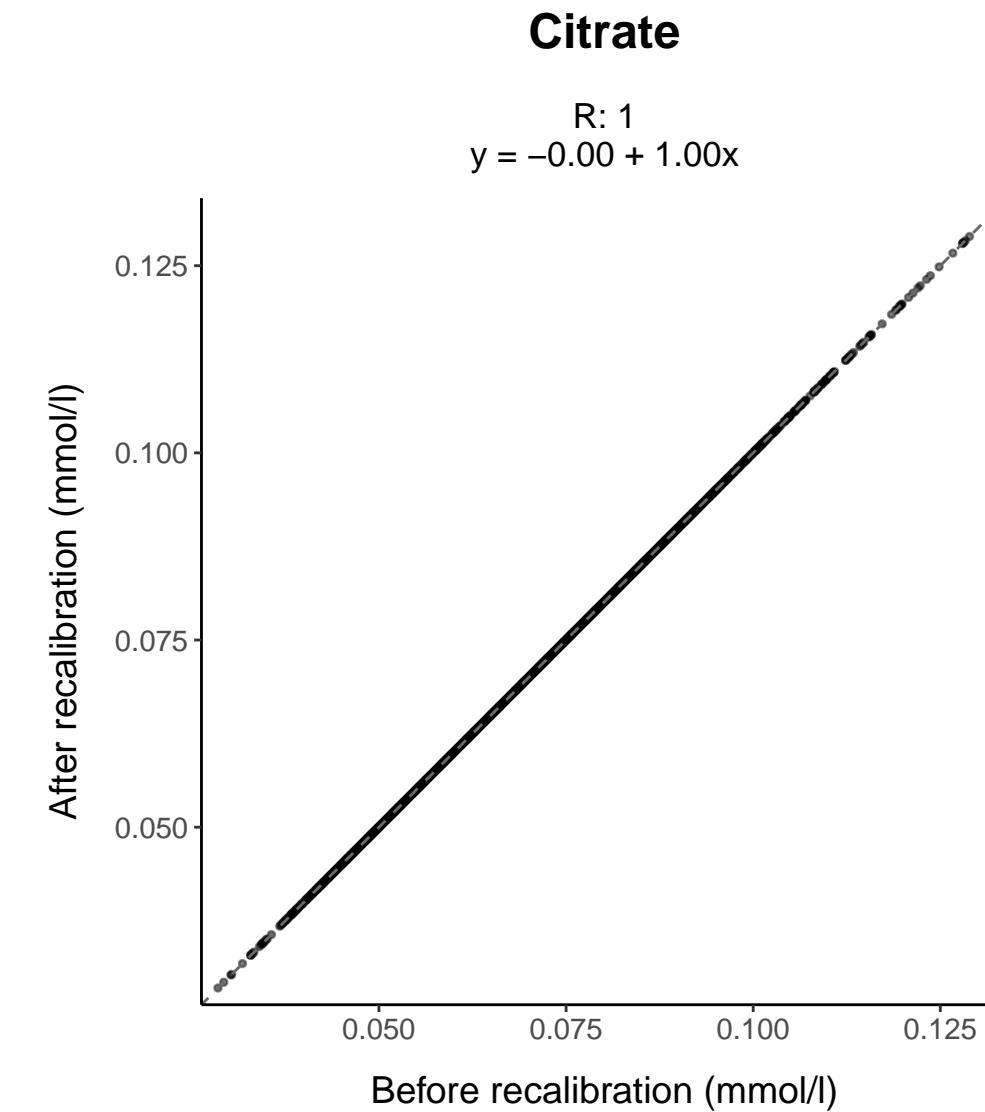
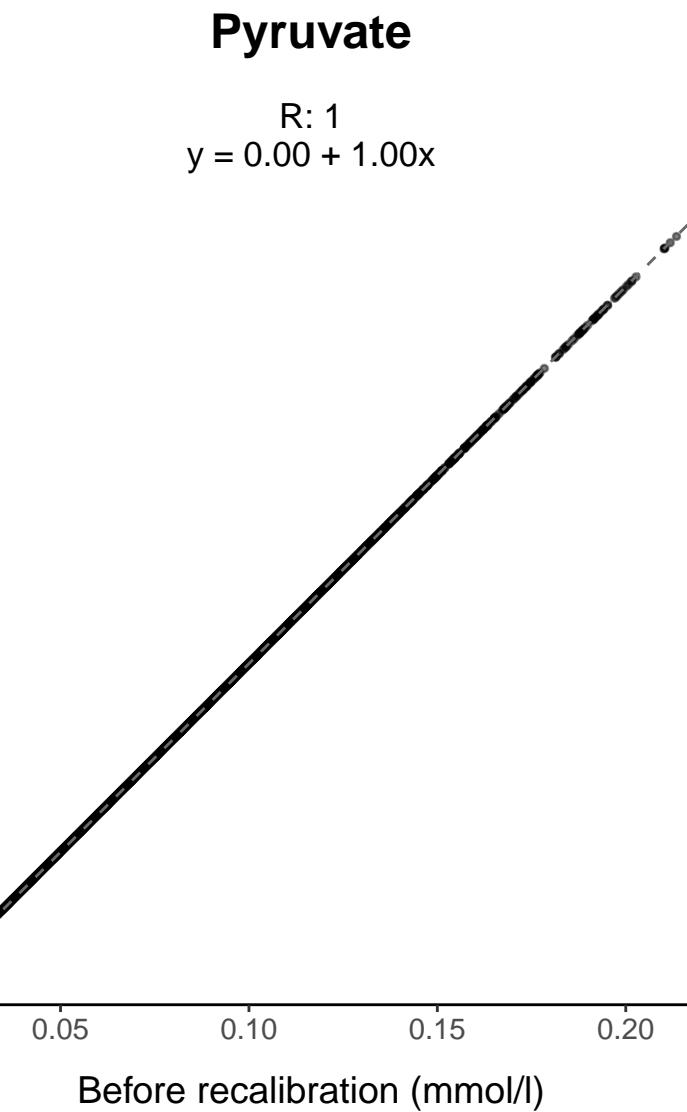
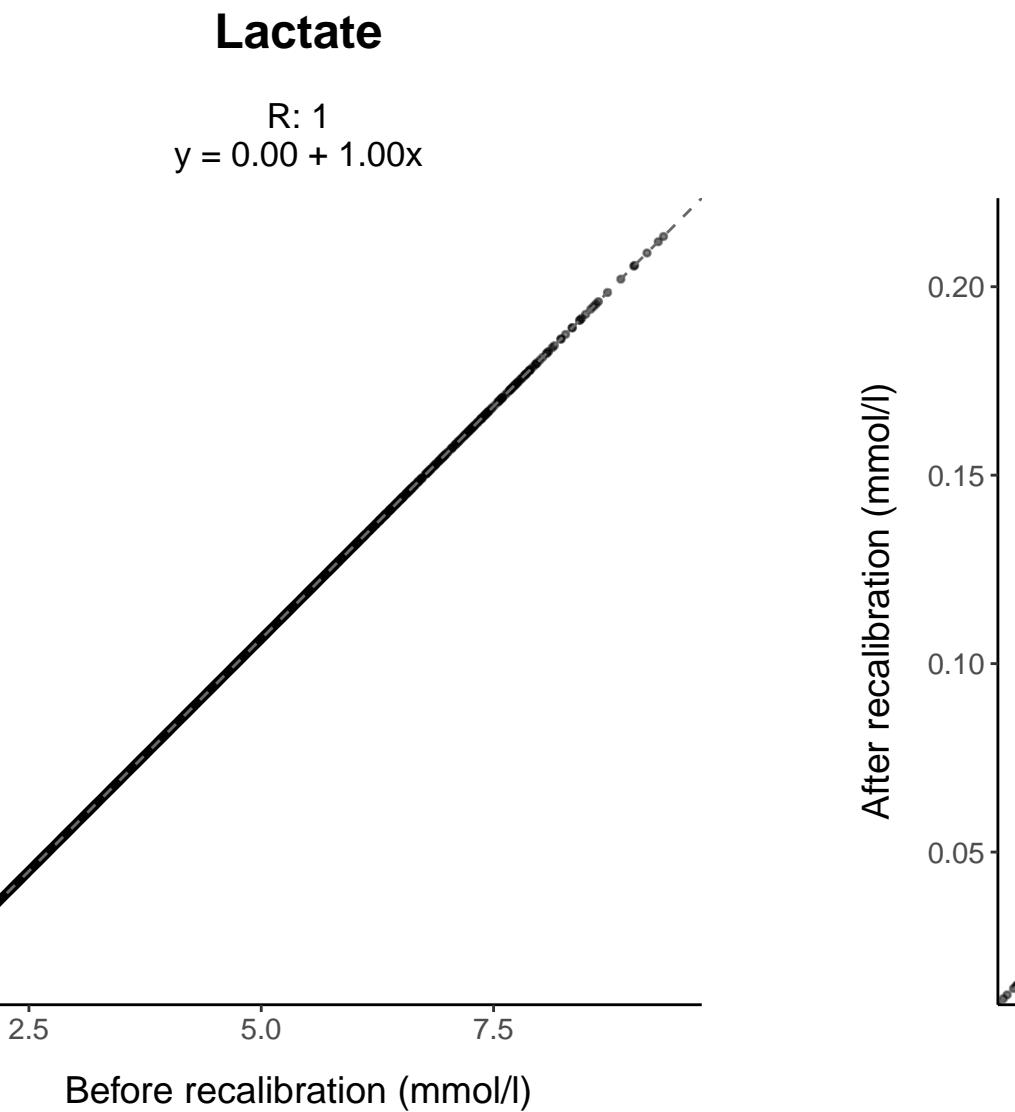
# Branched-chain amino acids



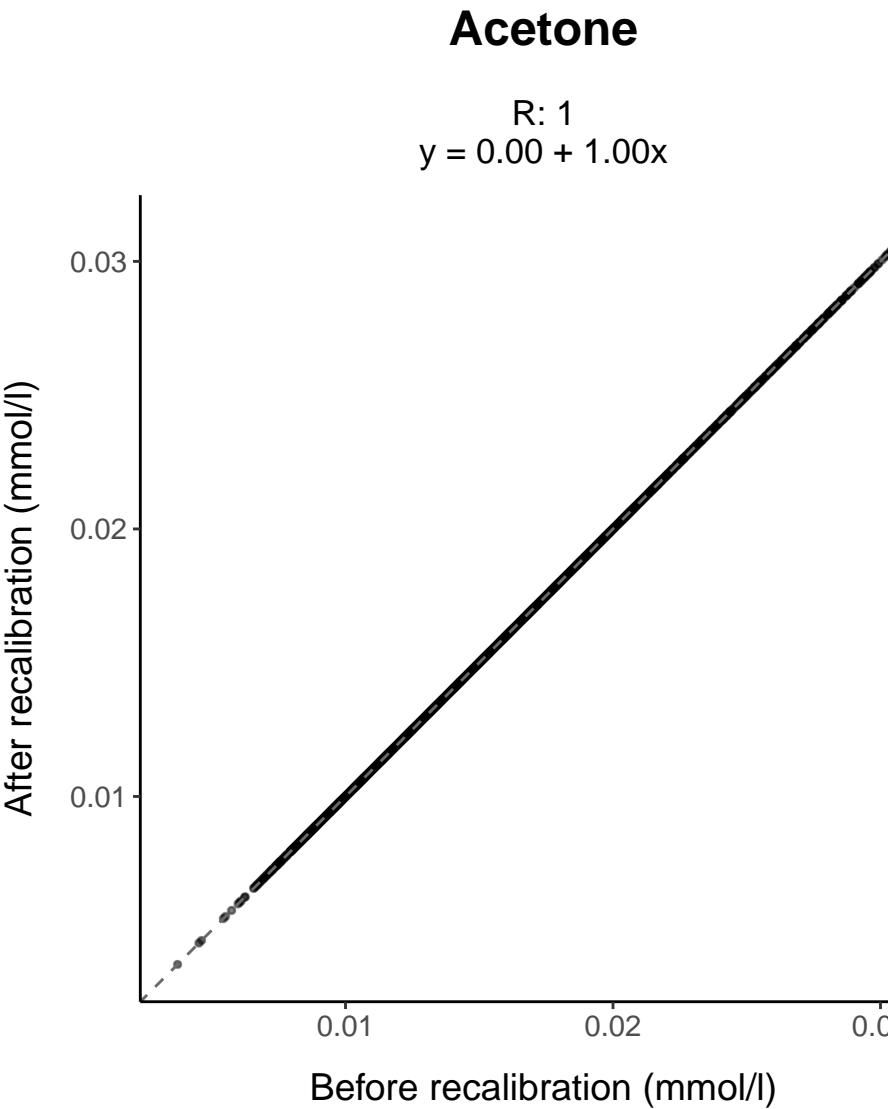
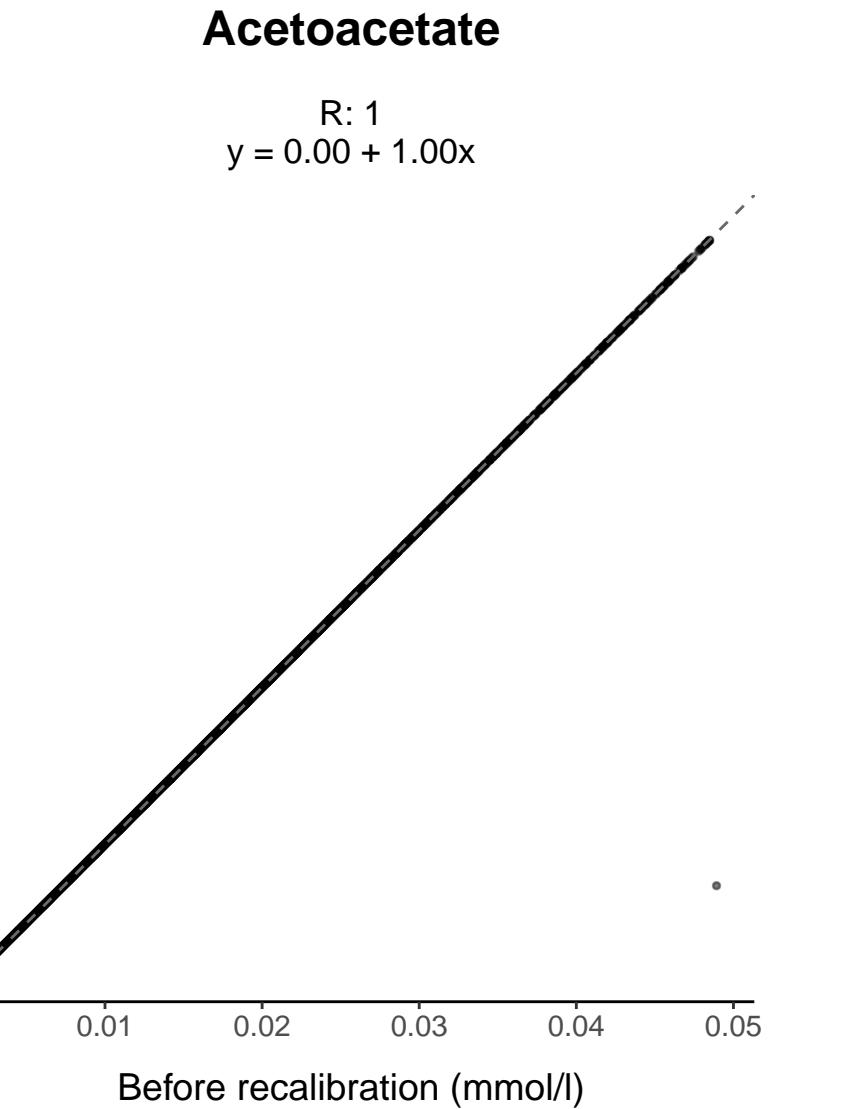
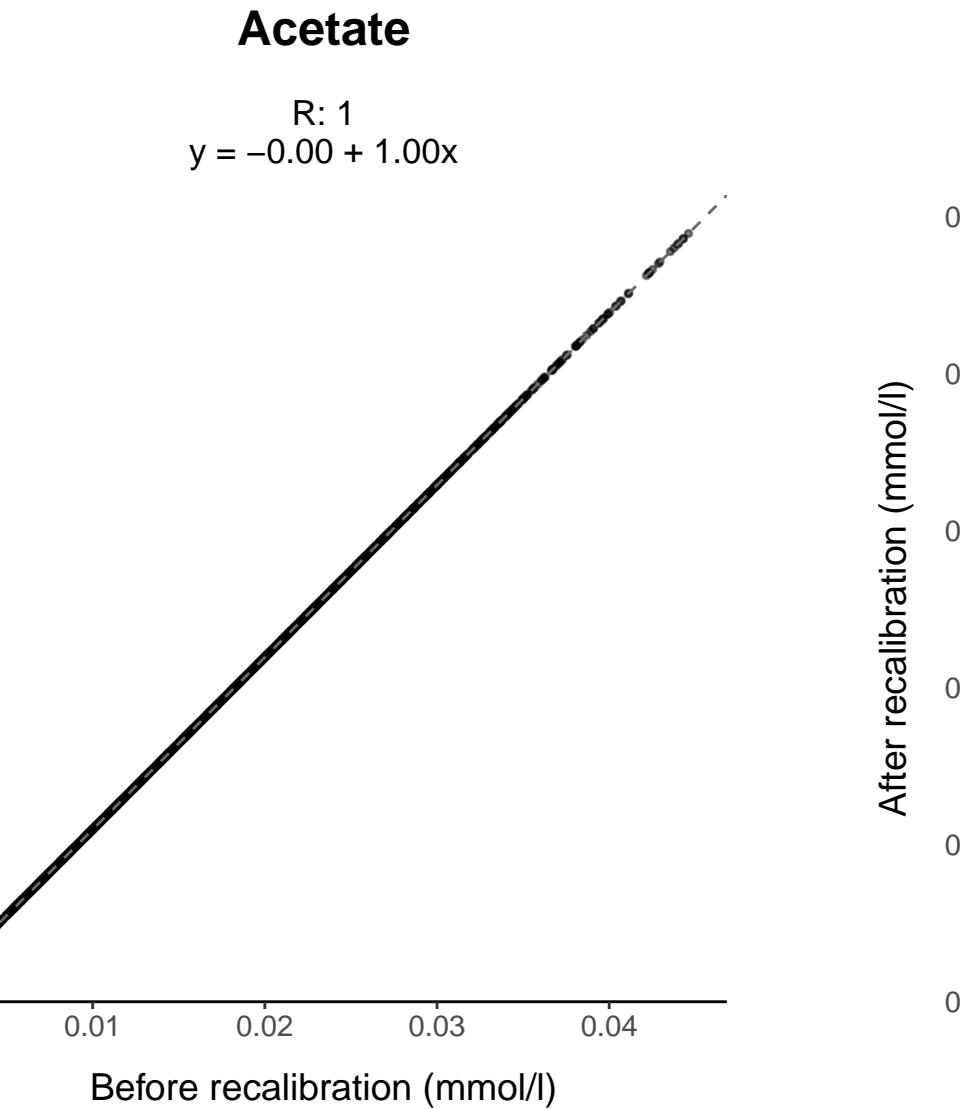
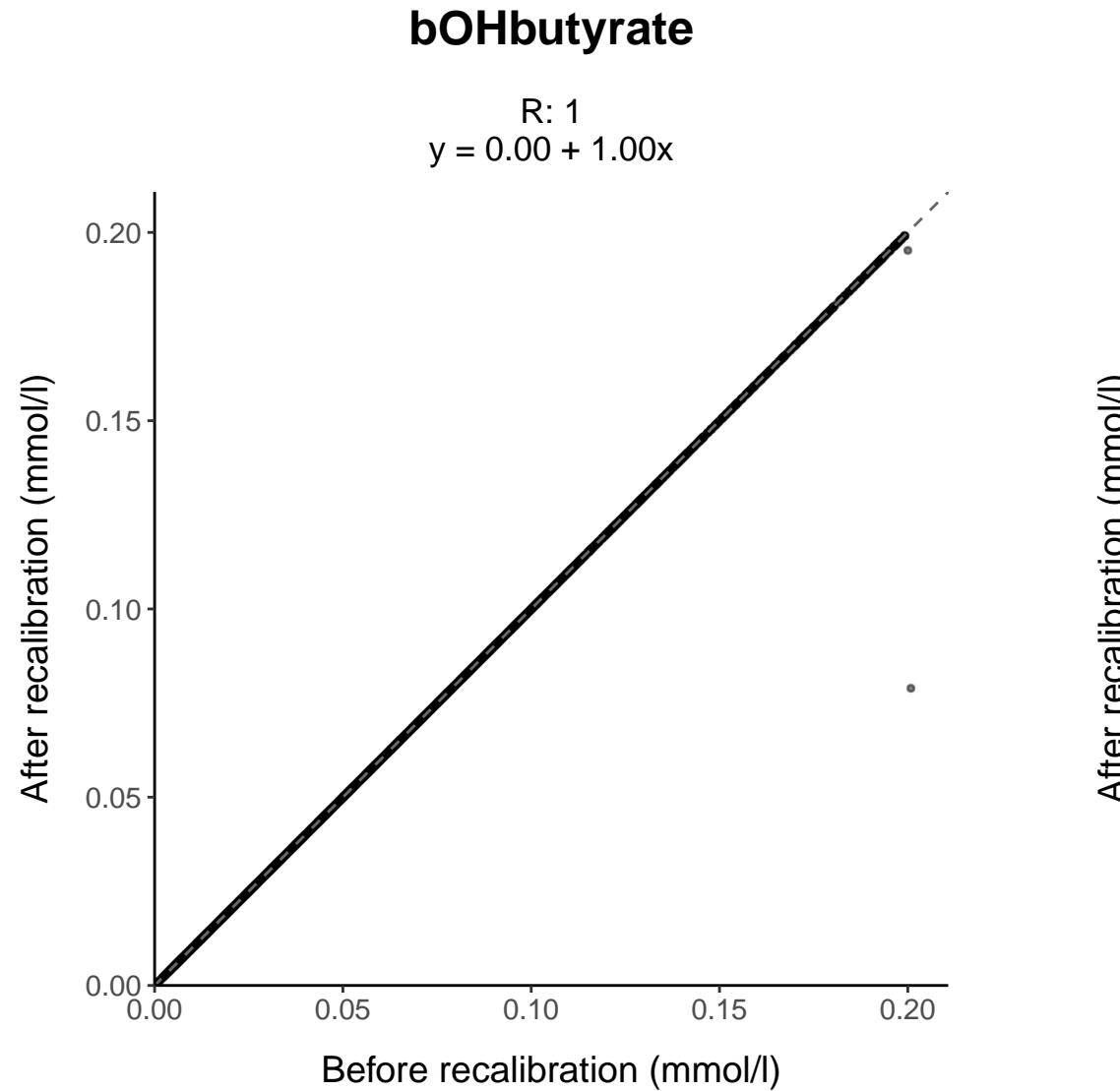
## Aromatic amino acids



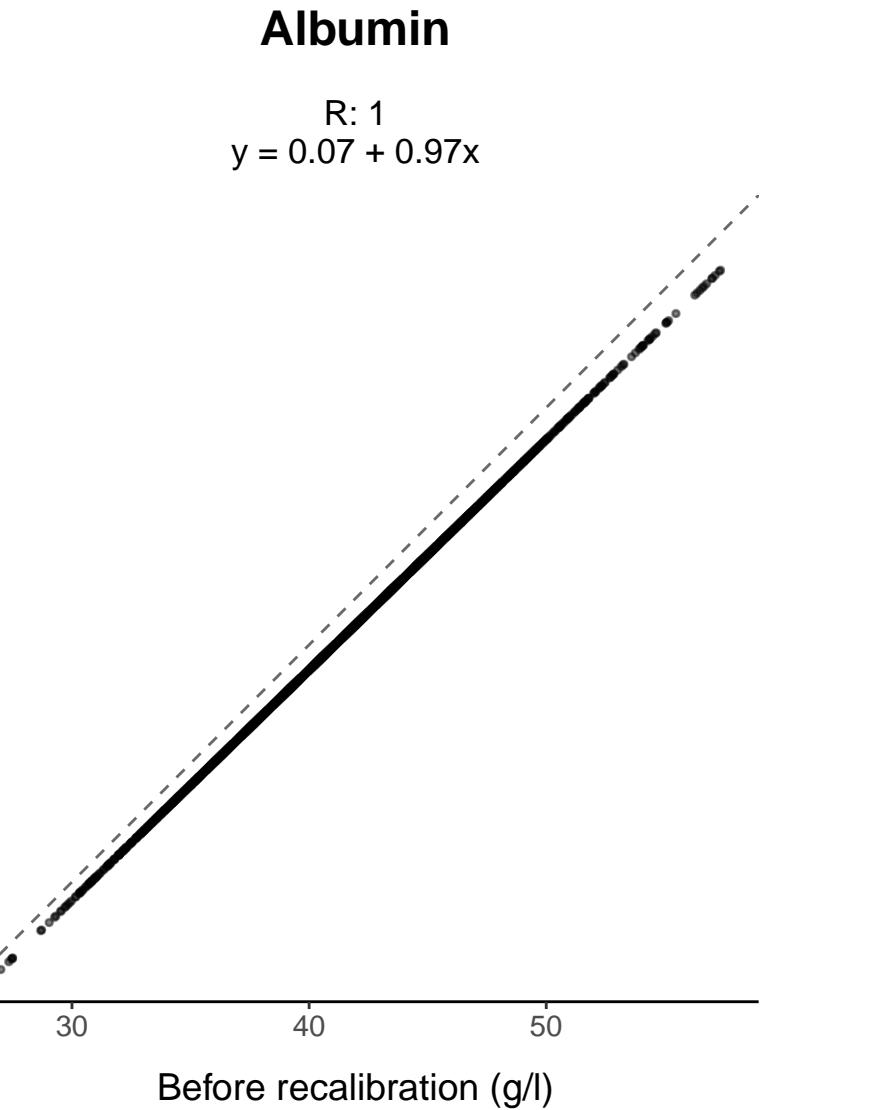
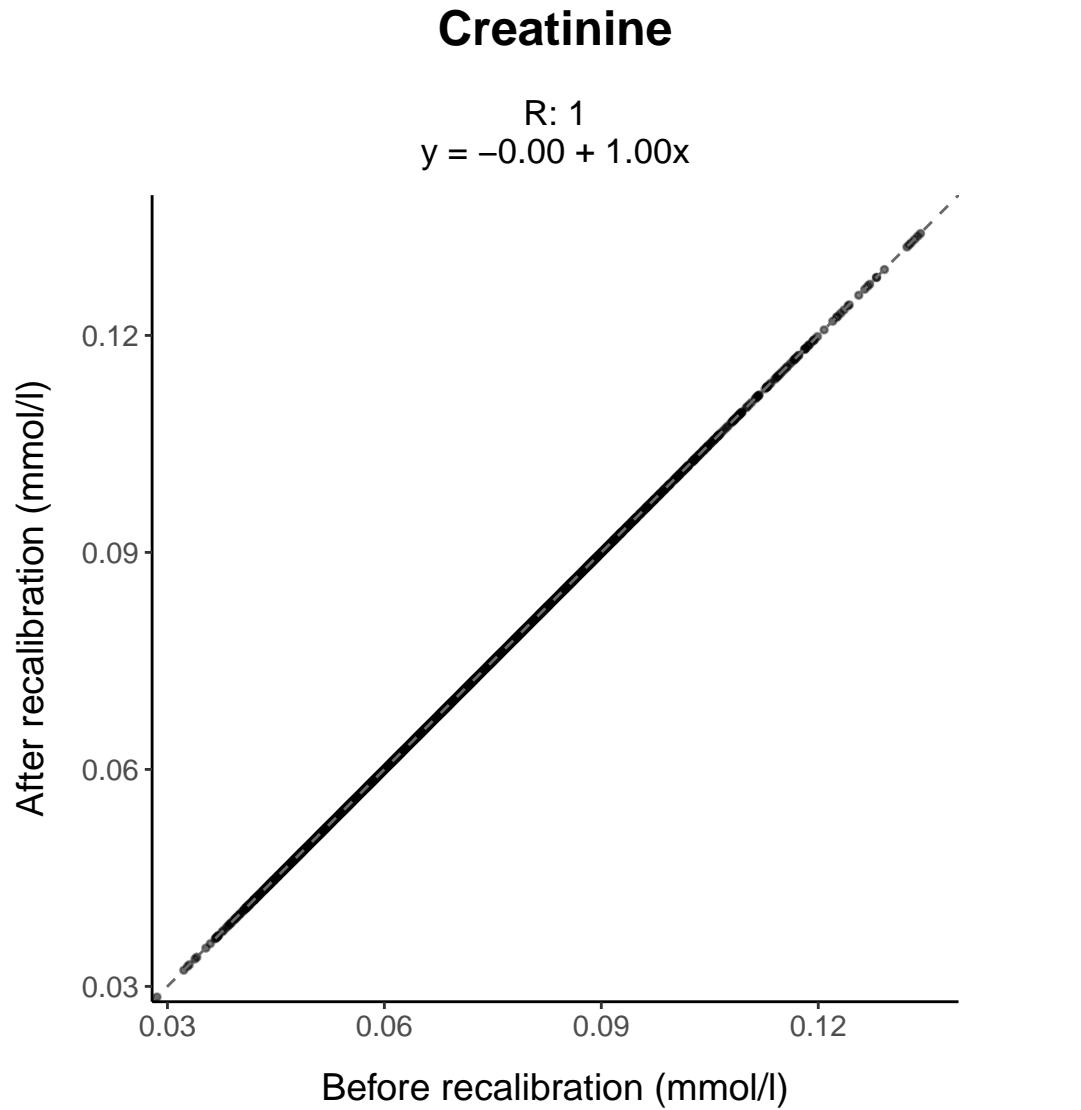
## Glycolysis related metabolites



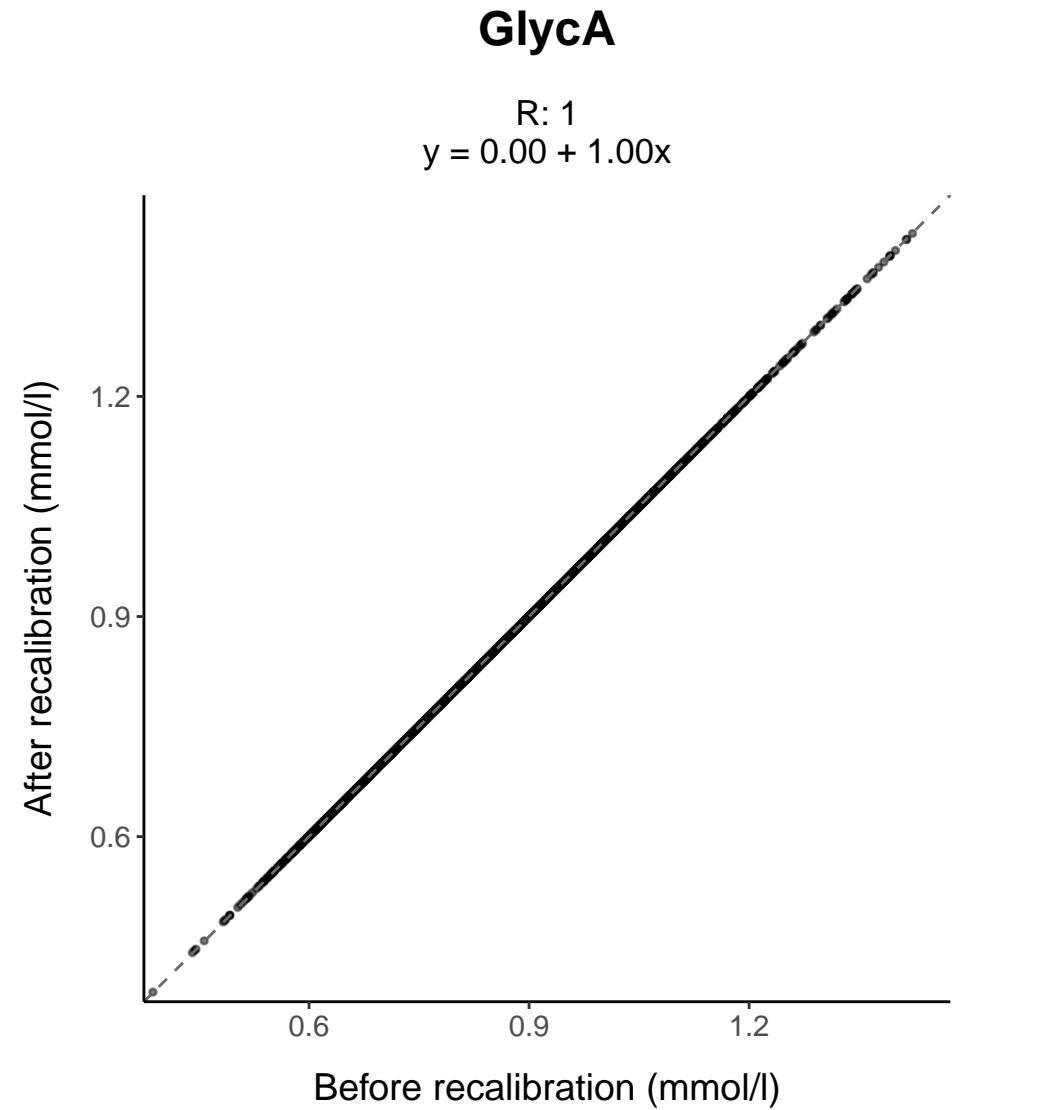
# Ketone bodies



## Fluid balance

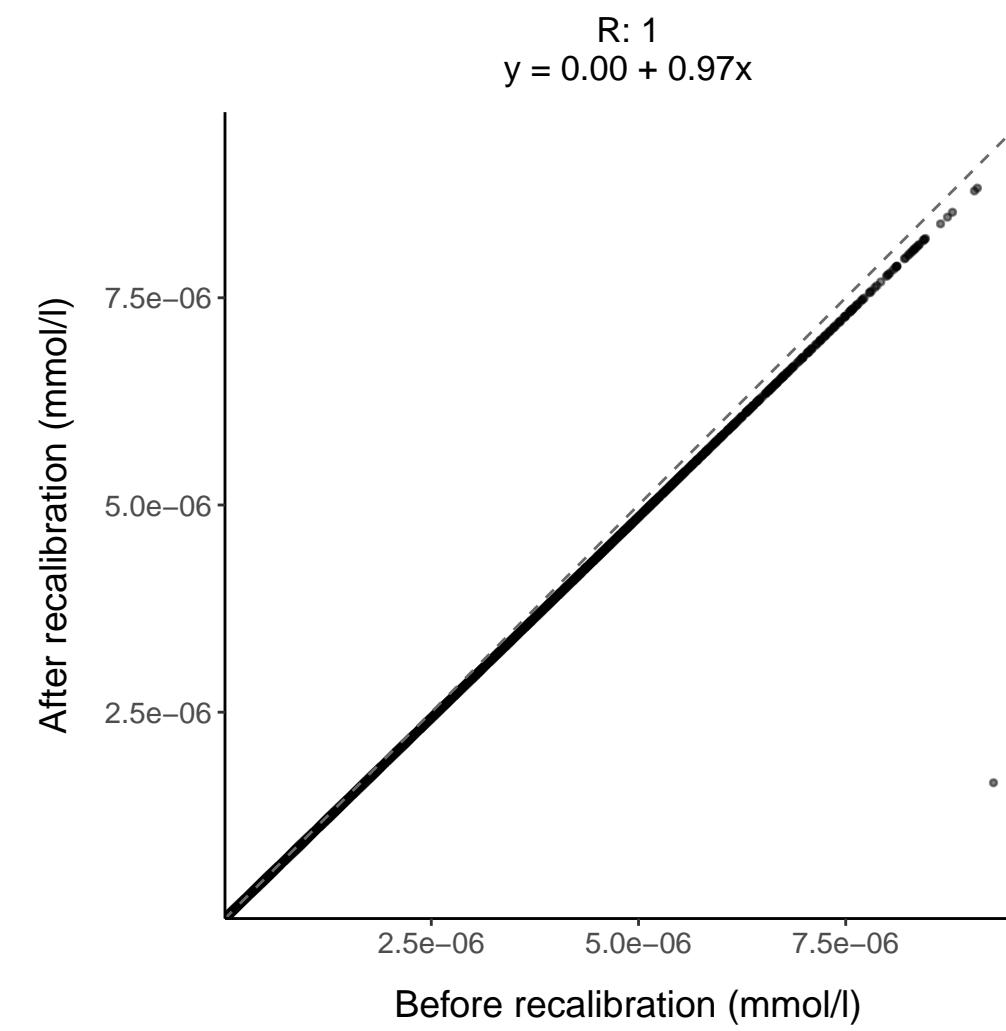


## Inflammation

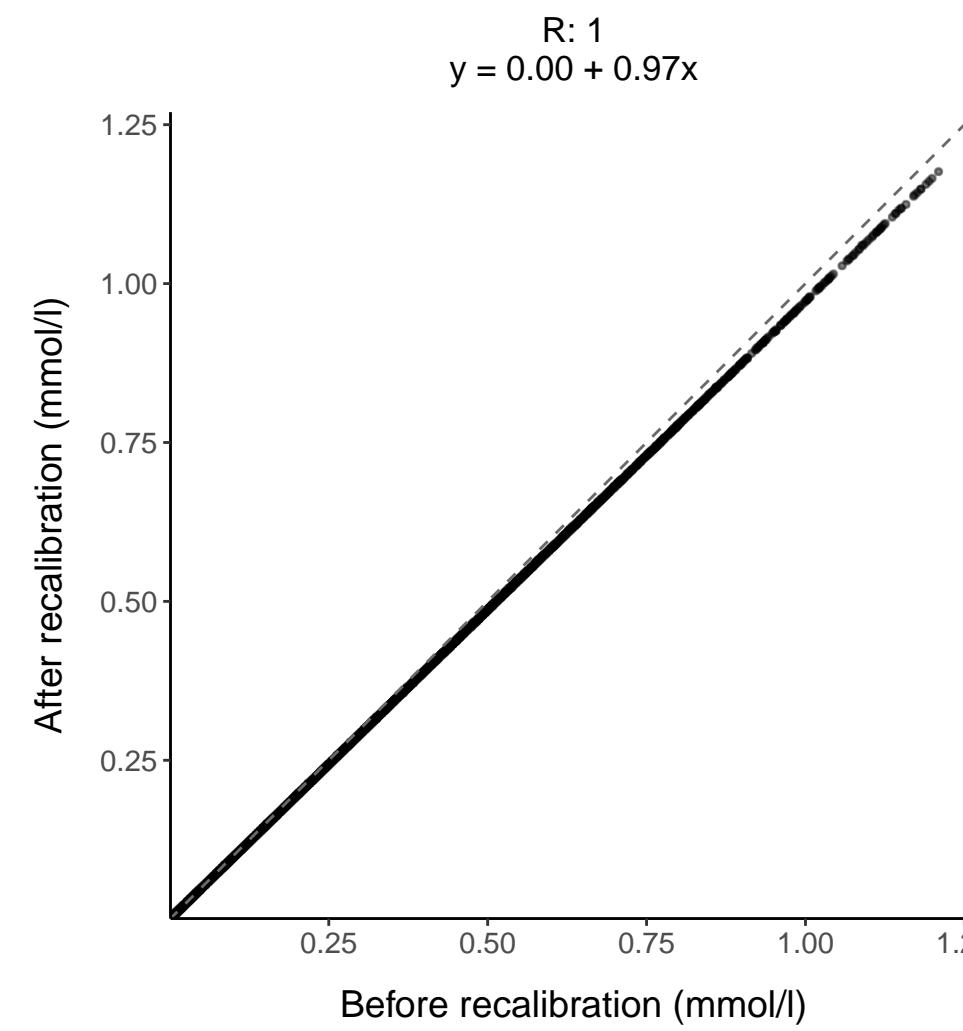


## Chylomicrons and extremely large VLDL (particle diameters from 75 nm upwards)

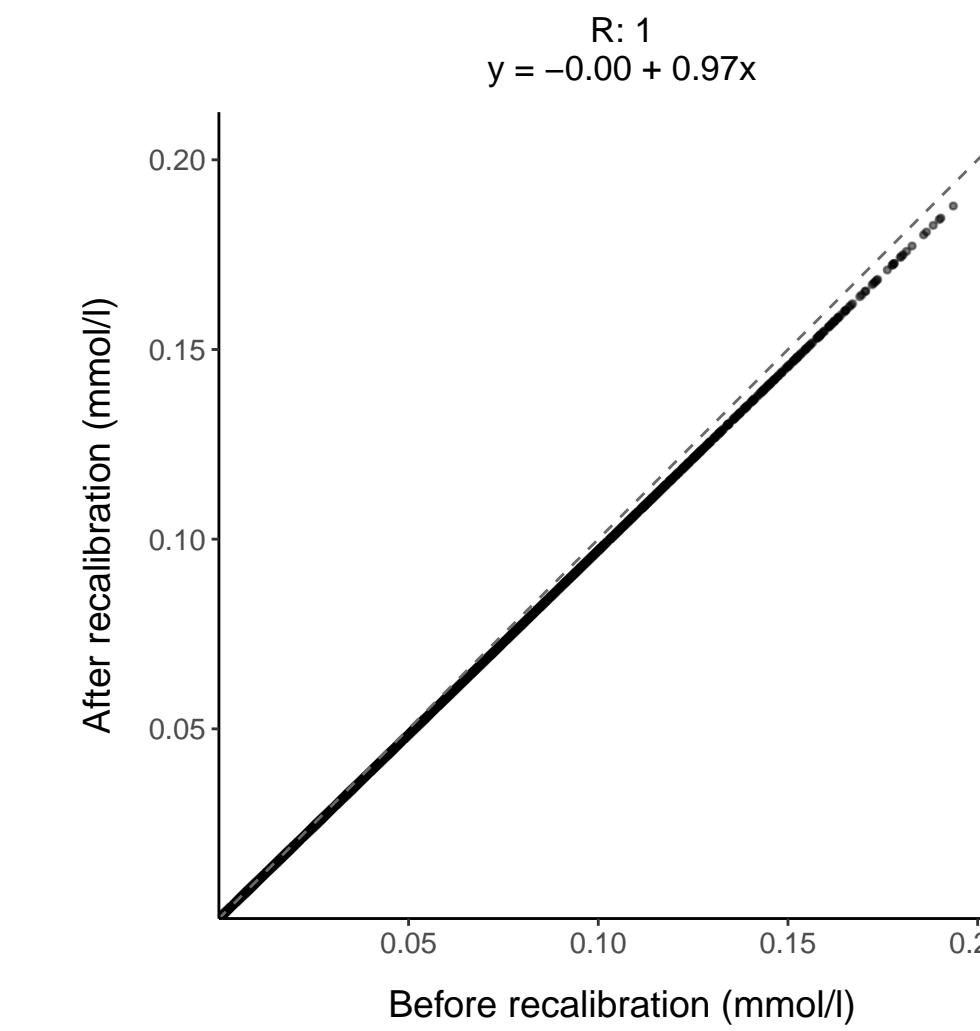
**XXL\_VLDL\_P**



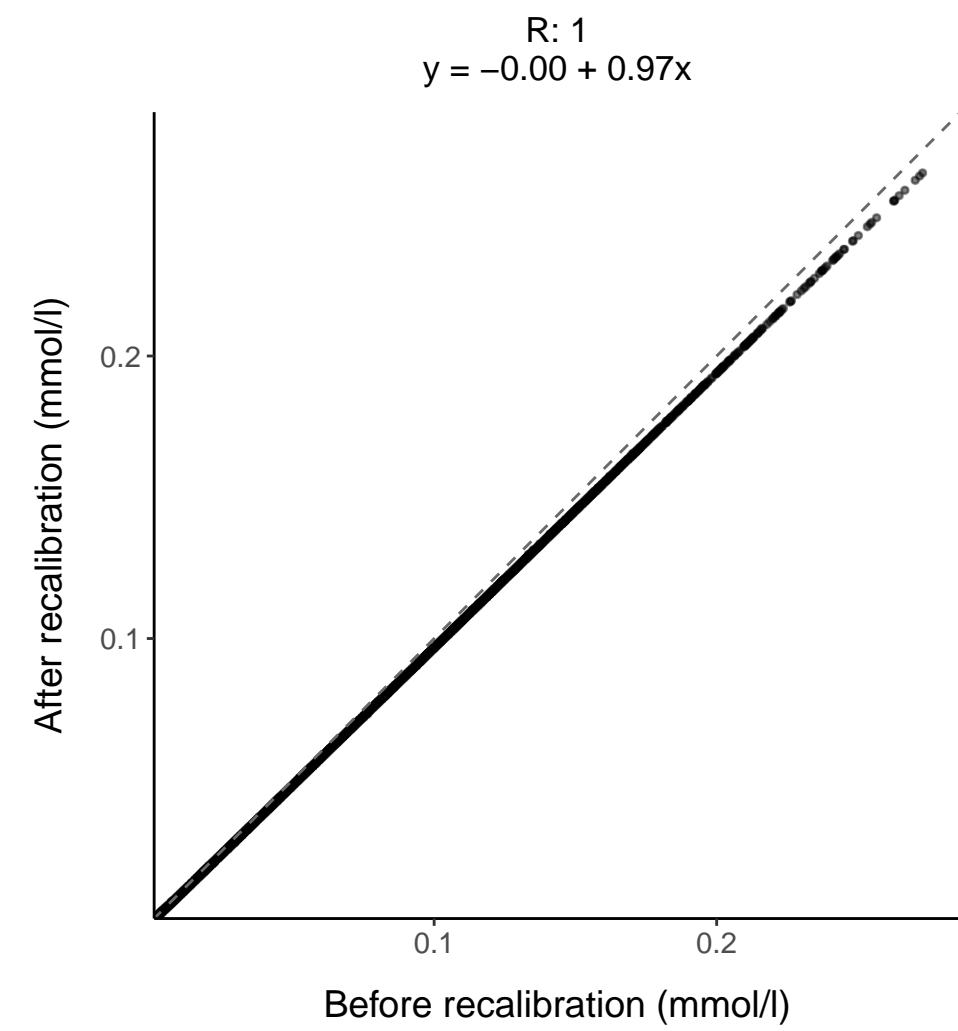
**XXL\_VLDL\_L**



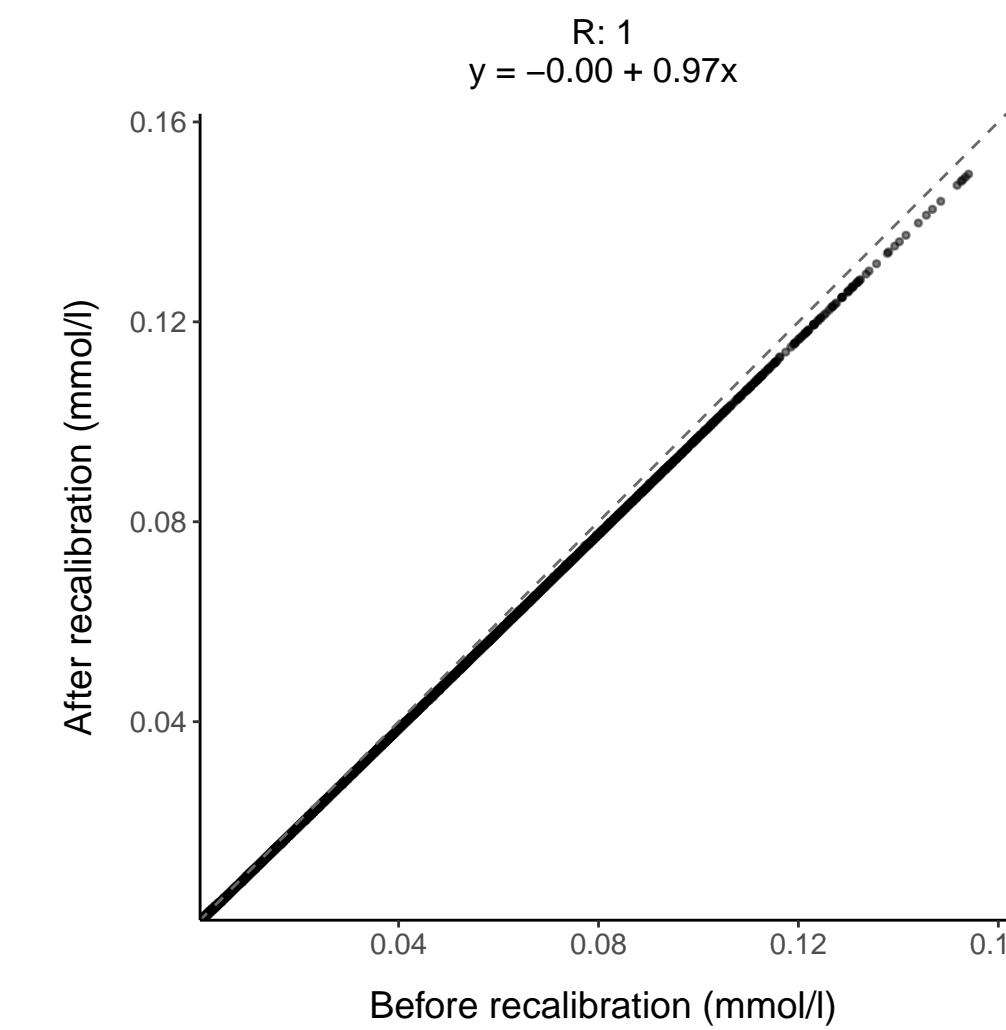
**XXL\_VLDL\_PL**



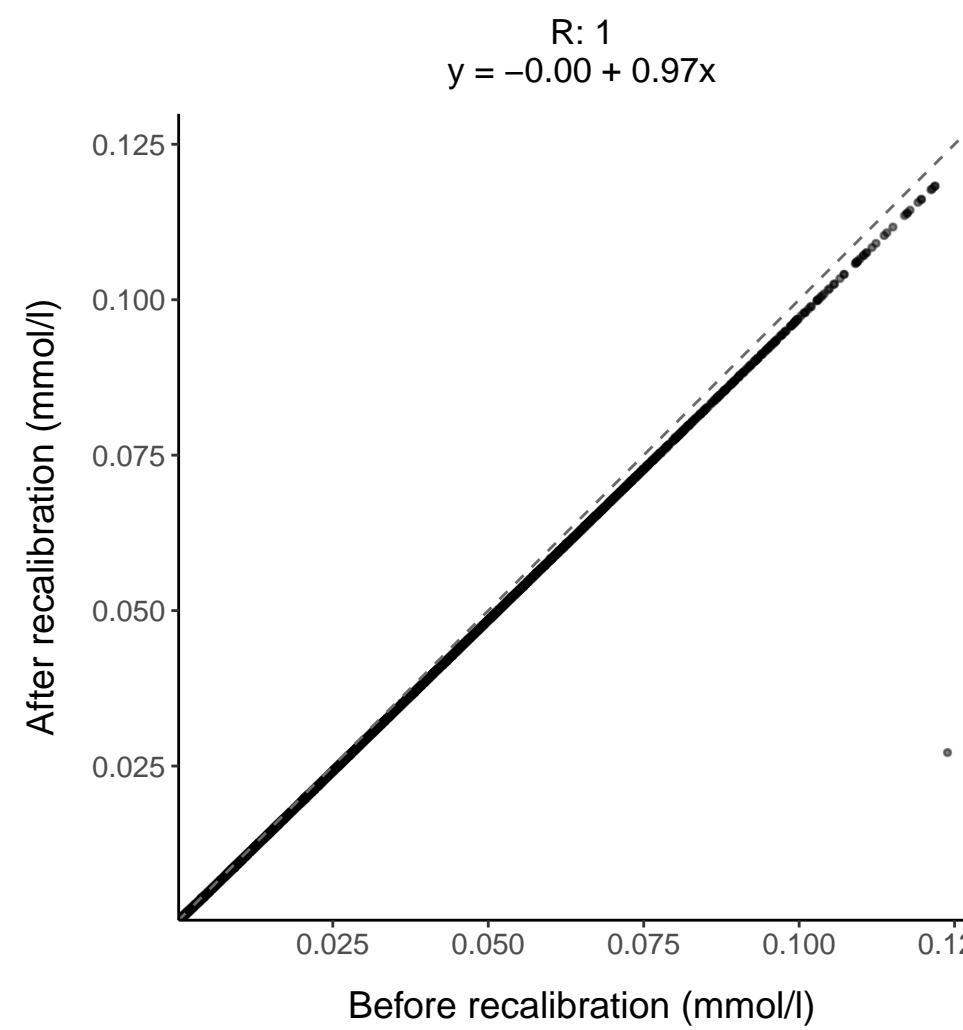
**XXL\_VLDL\_C**



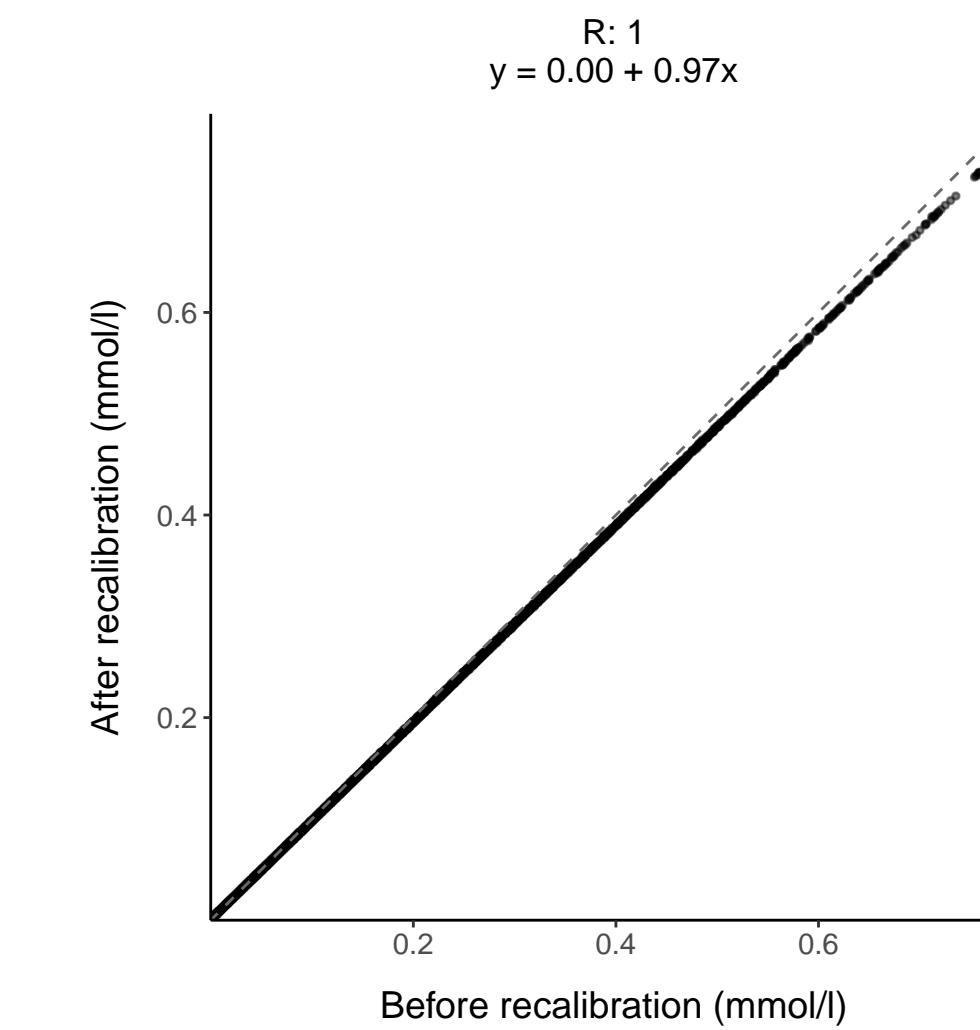
**XXL\_VLDL\_CE**



**XXL\_VLDL\_FC**



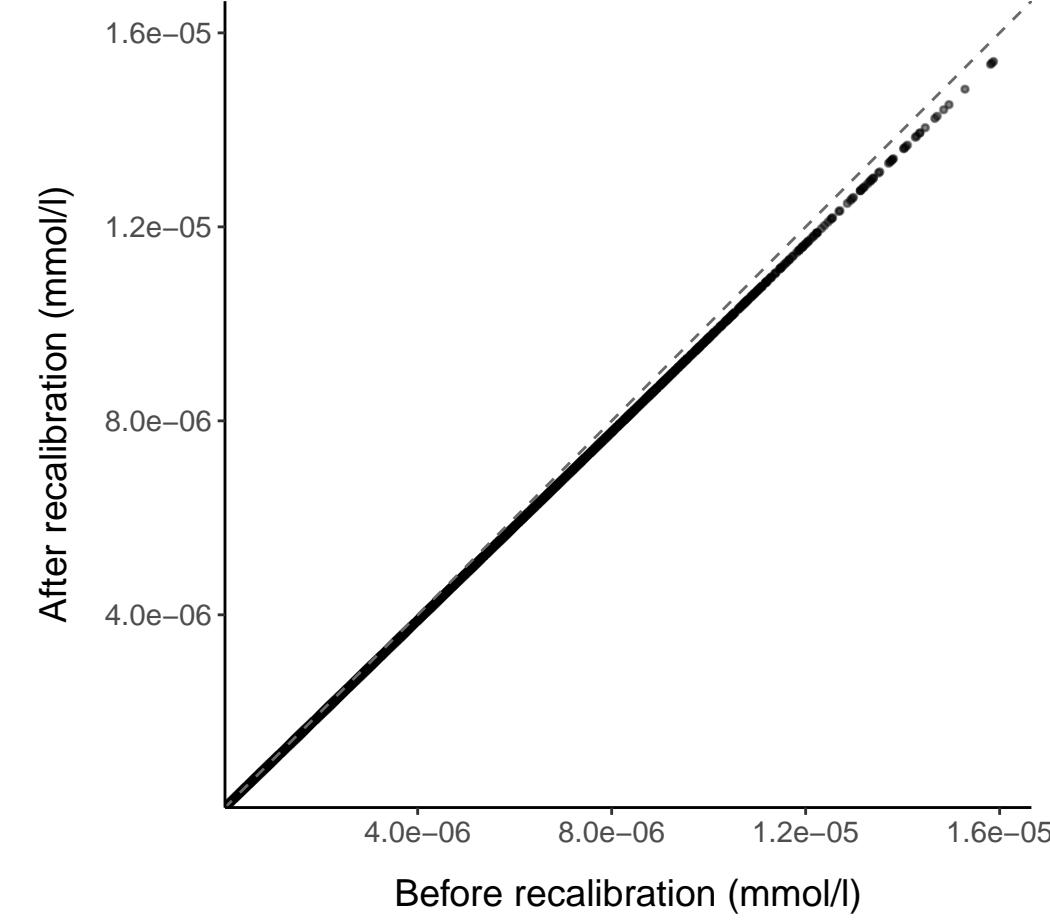
**XXL\_VLDL\_TG**



### Very large VLDL (average diameter 64 nm)

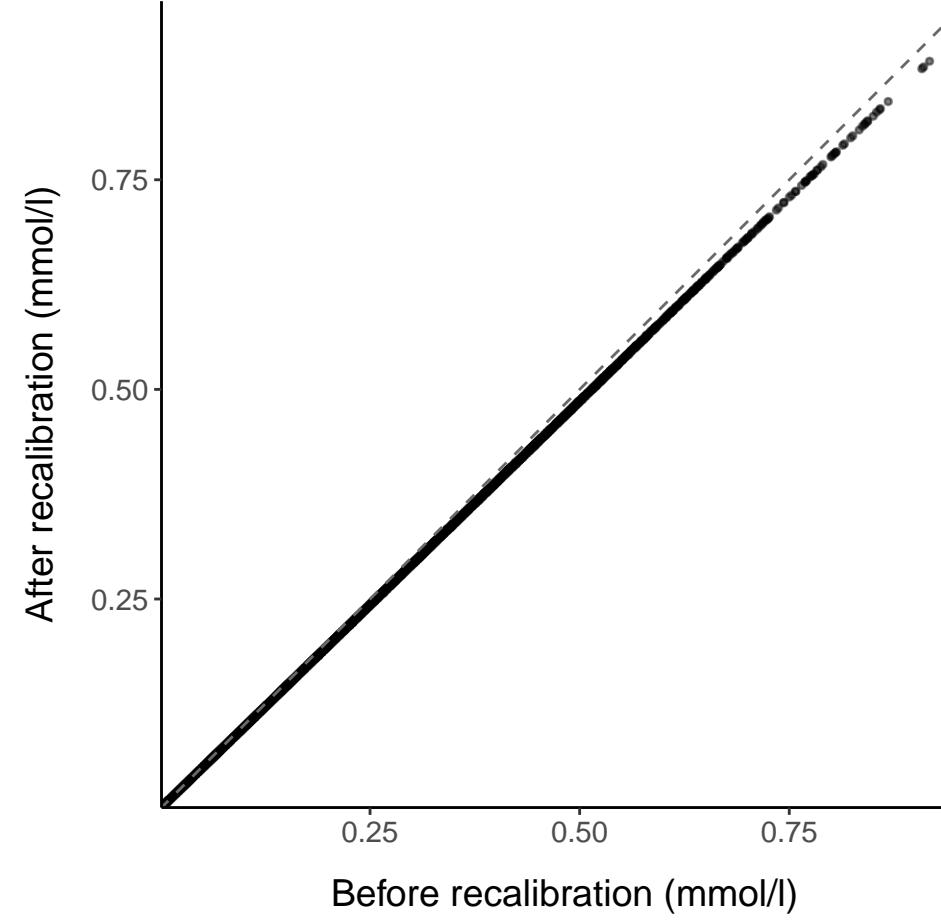
**XL\_VLDL\_P**

R: 1  
 $y = -0.00 + 0.97x$



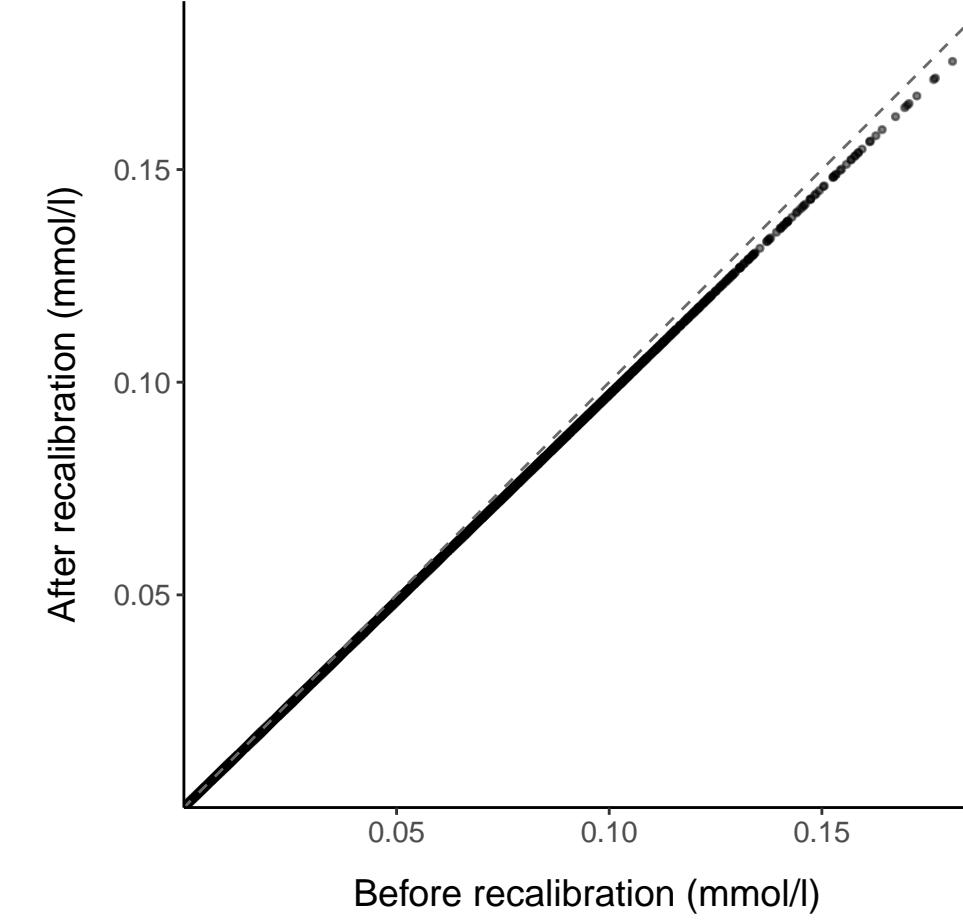
**XL\_VLDL\_L**

R: 1  
 $y = 0.00 + 0.97x$



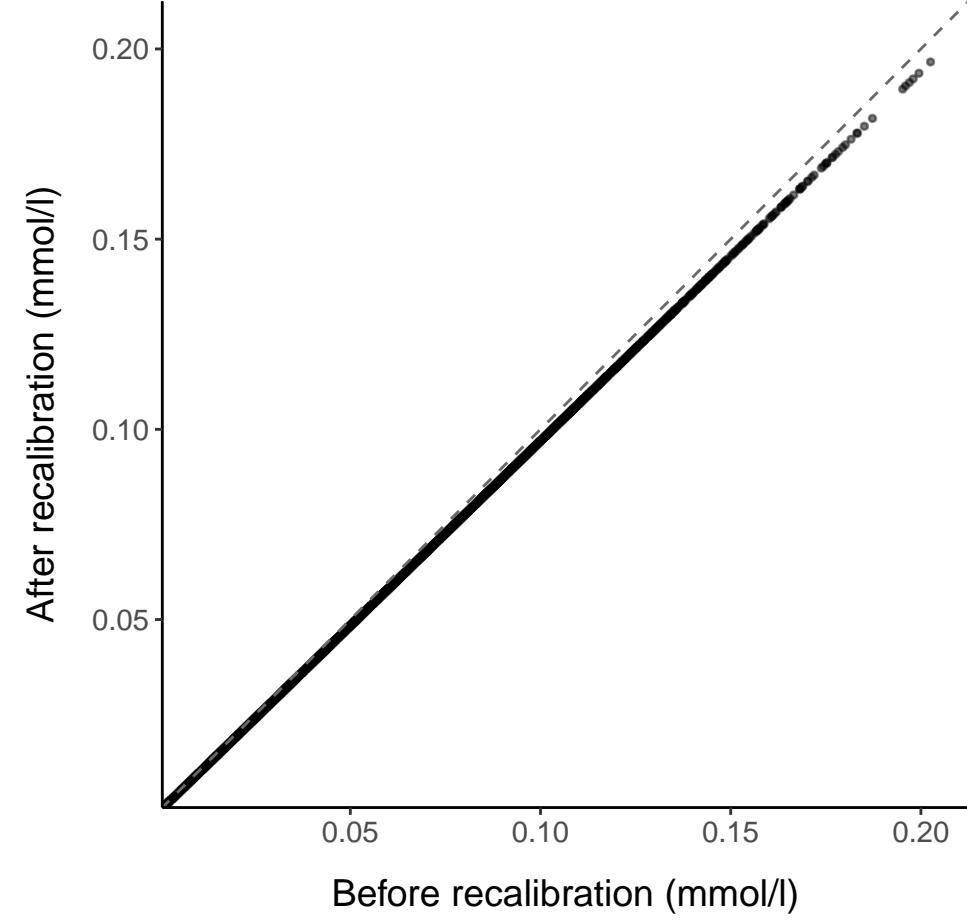
**XL\_VLDL\_PL**

R: 1  
 $y = -0.00 + 0.97x$



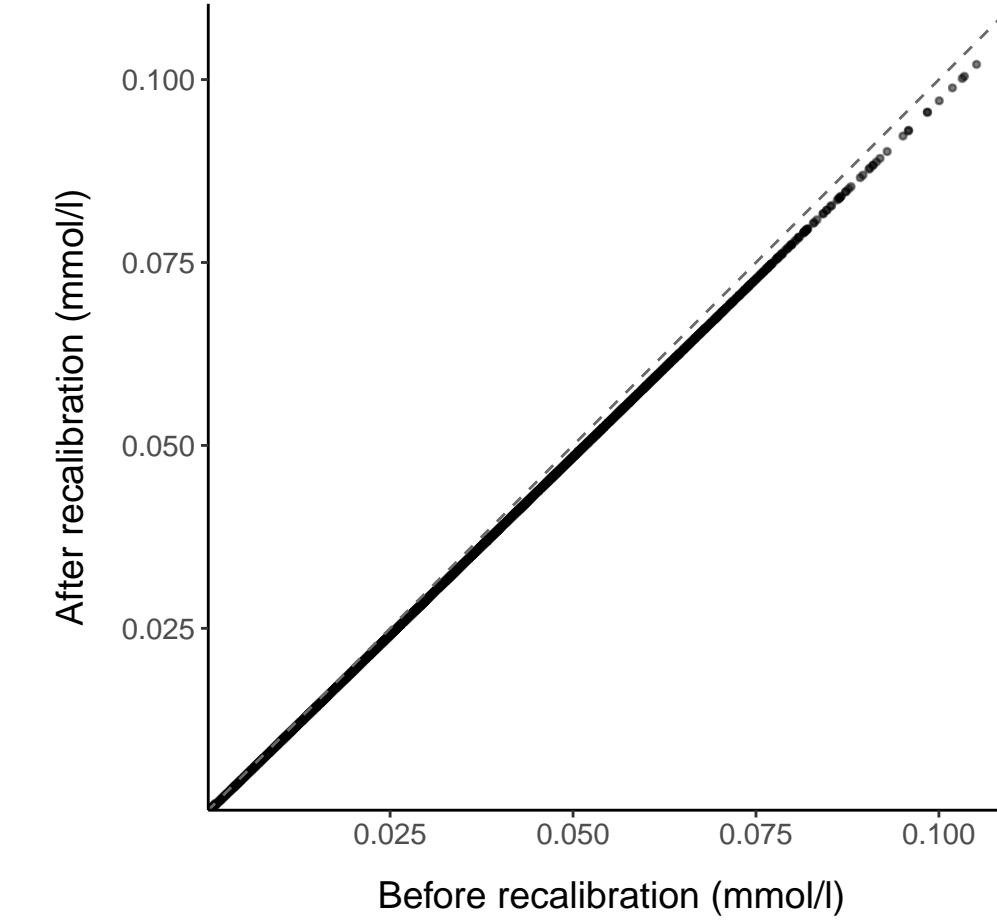
**XL\_VLDL\_C**

R: 1  
 $y = -0.00 + 0.97x$



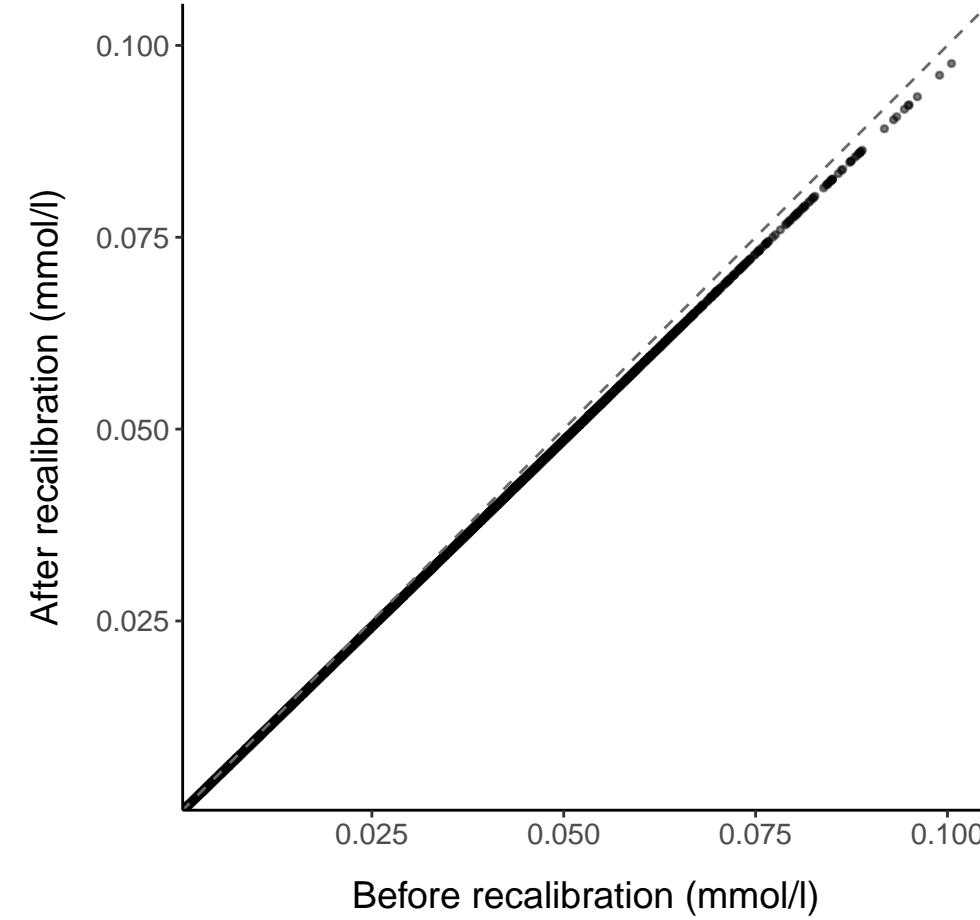
**XL\_VLDL\_CE**

R: 1  
 $y = -0.00 + 0.97x$



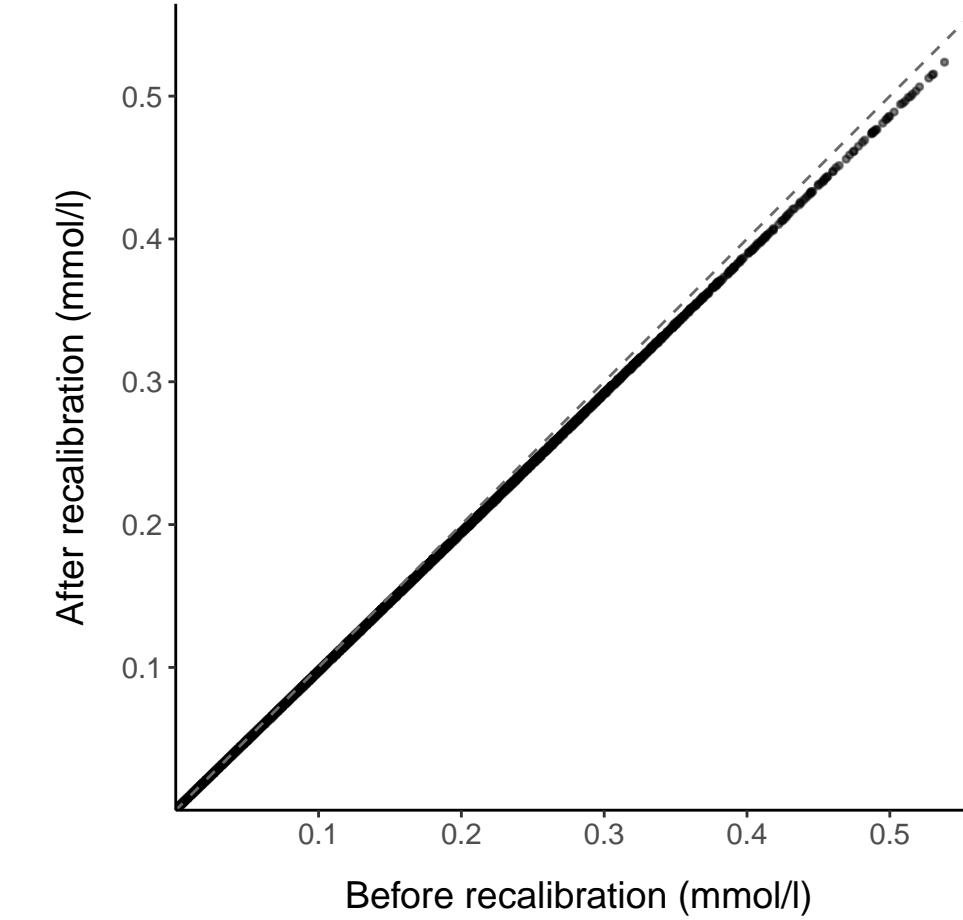
**XL\_VLDL\_FC**

R: 1  
 $y = -0.00 + 0.97x$



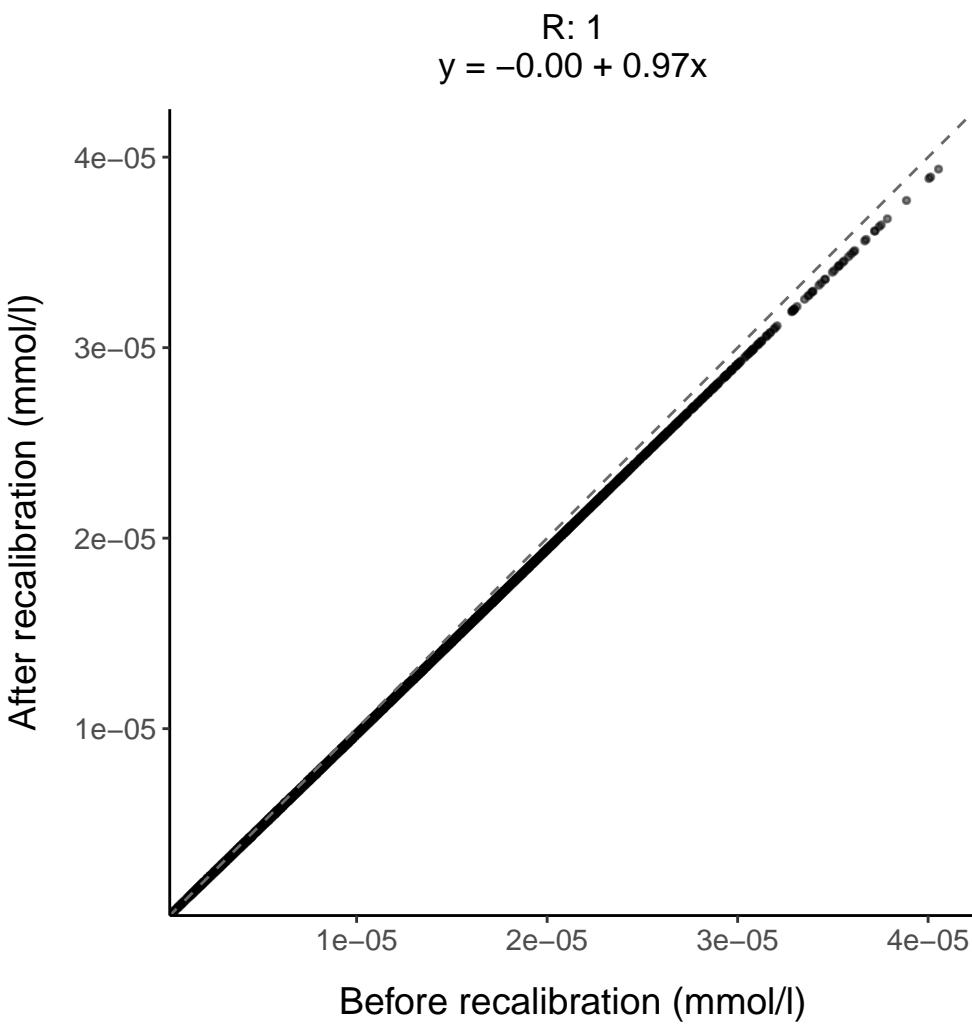
**XL\_VLDL\_TG**

R: 1  
 $y = 0.00 + 0.97x$

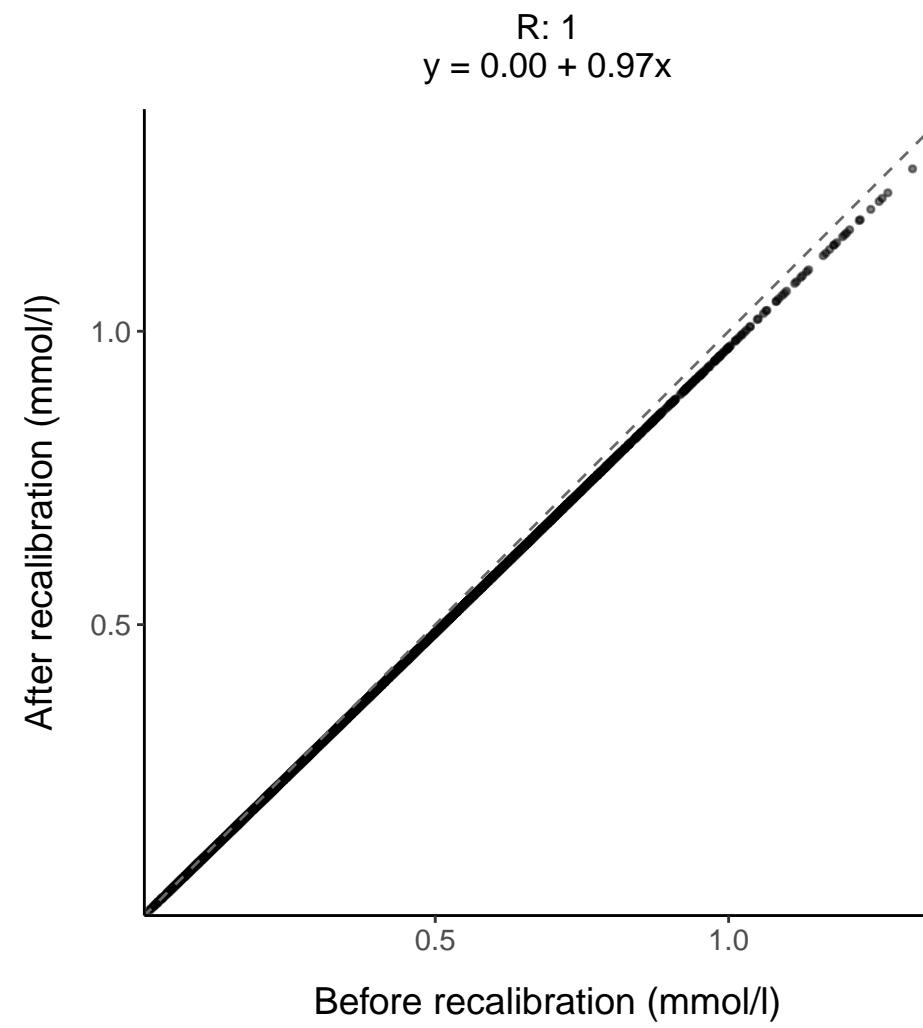


## Large VLDL (average diameter 53.6 nm)

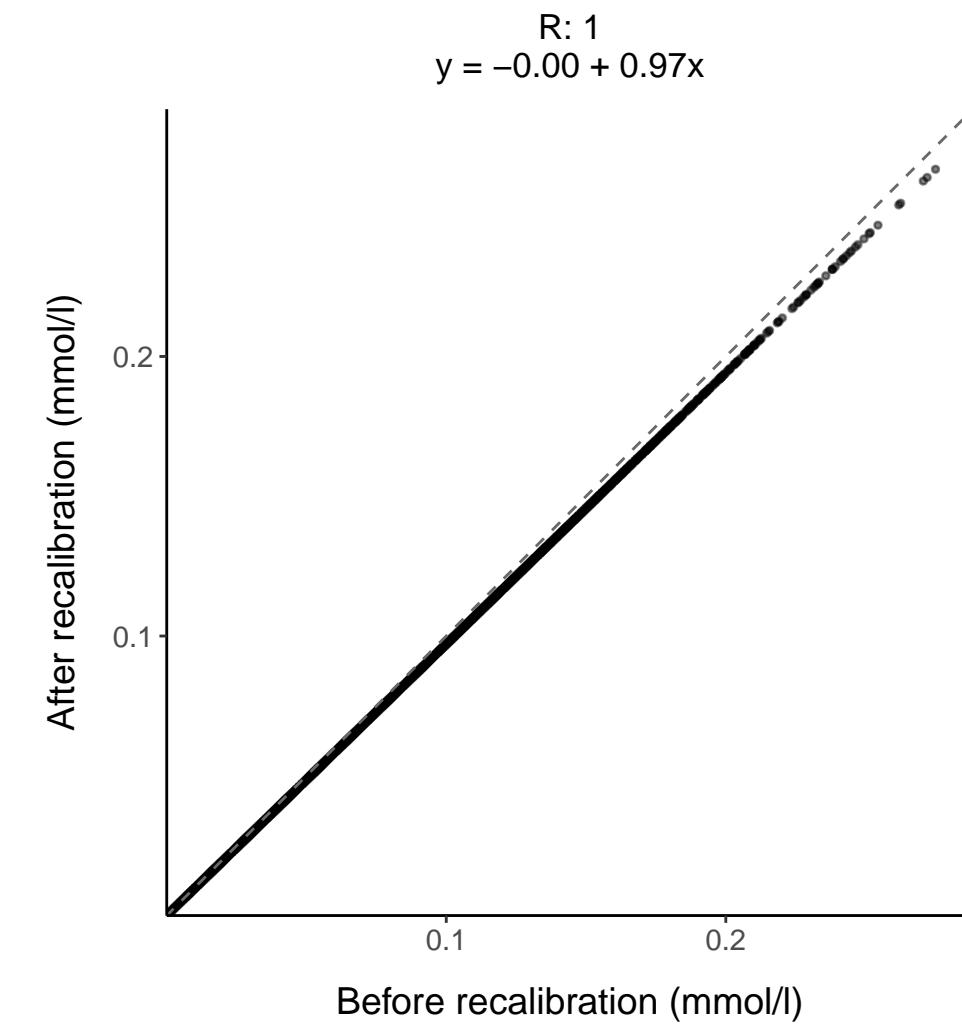
L\_VLDL\_P



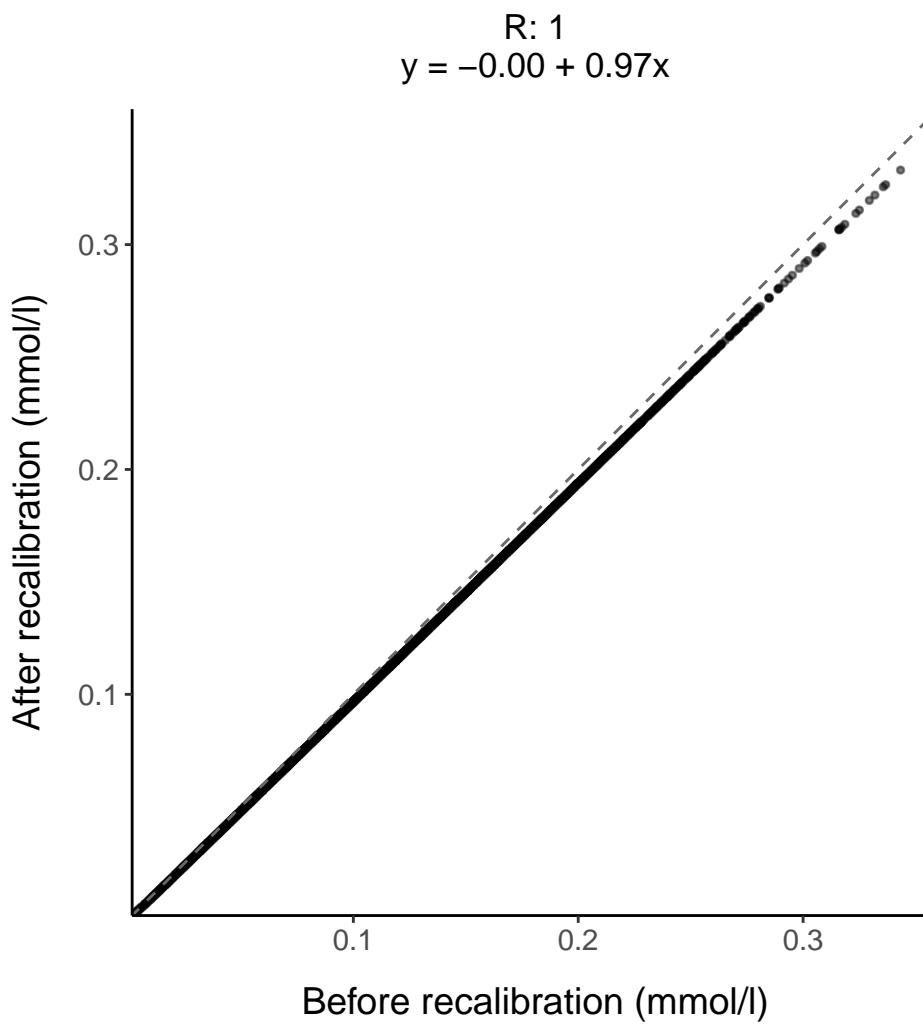
L\_VLDL\_L



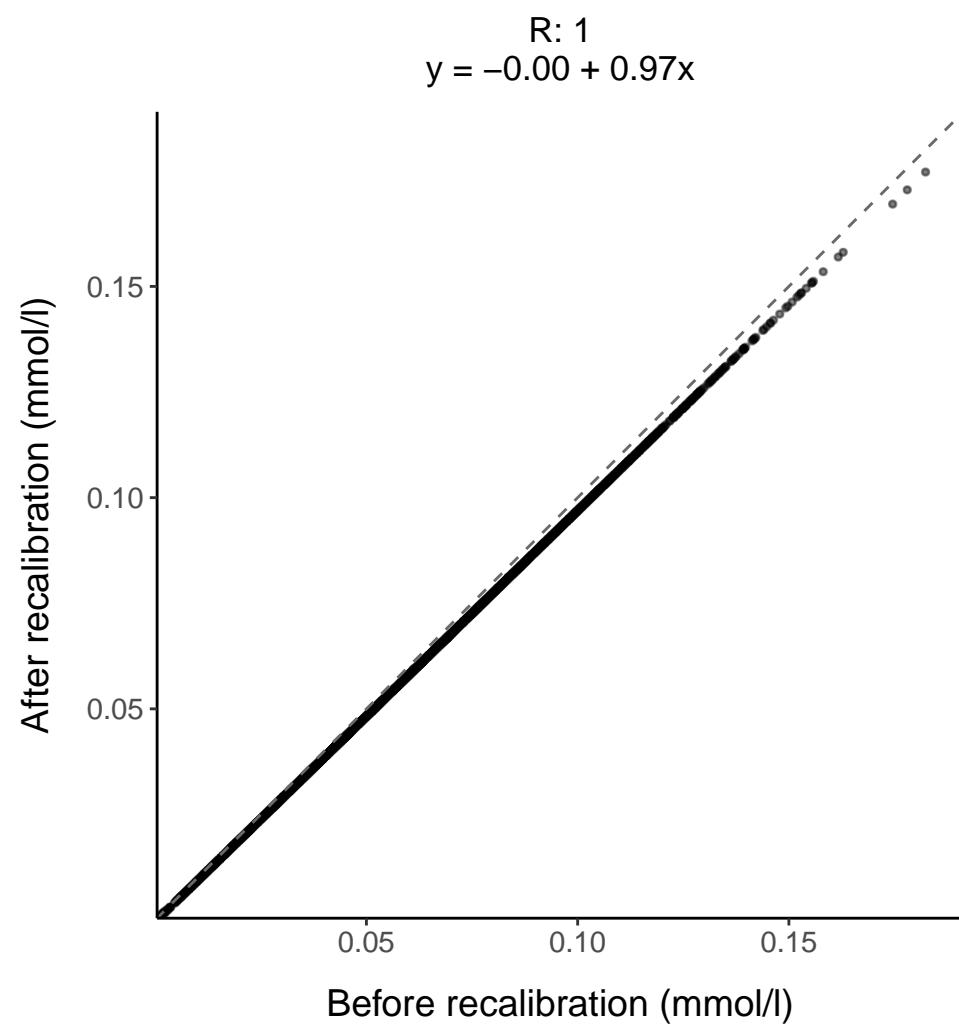
L\_VLDL\_PL



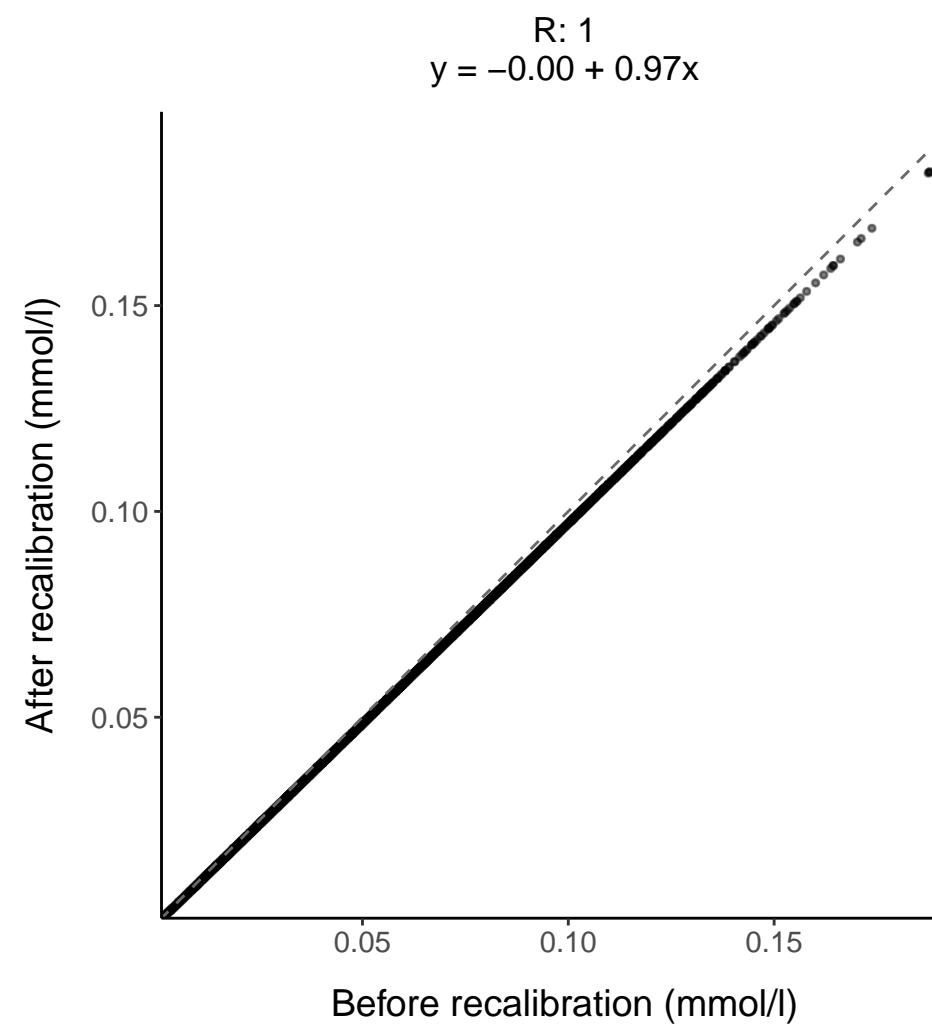
L\_VLDL\_C



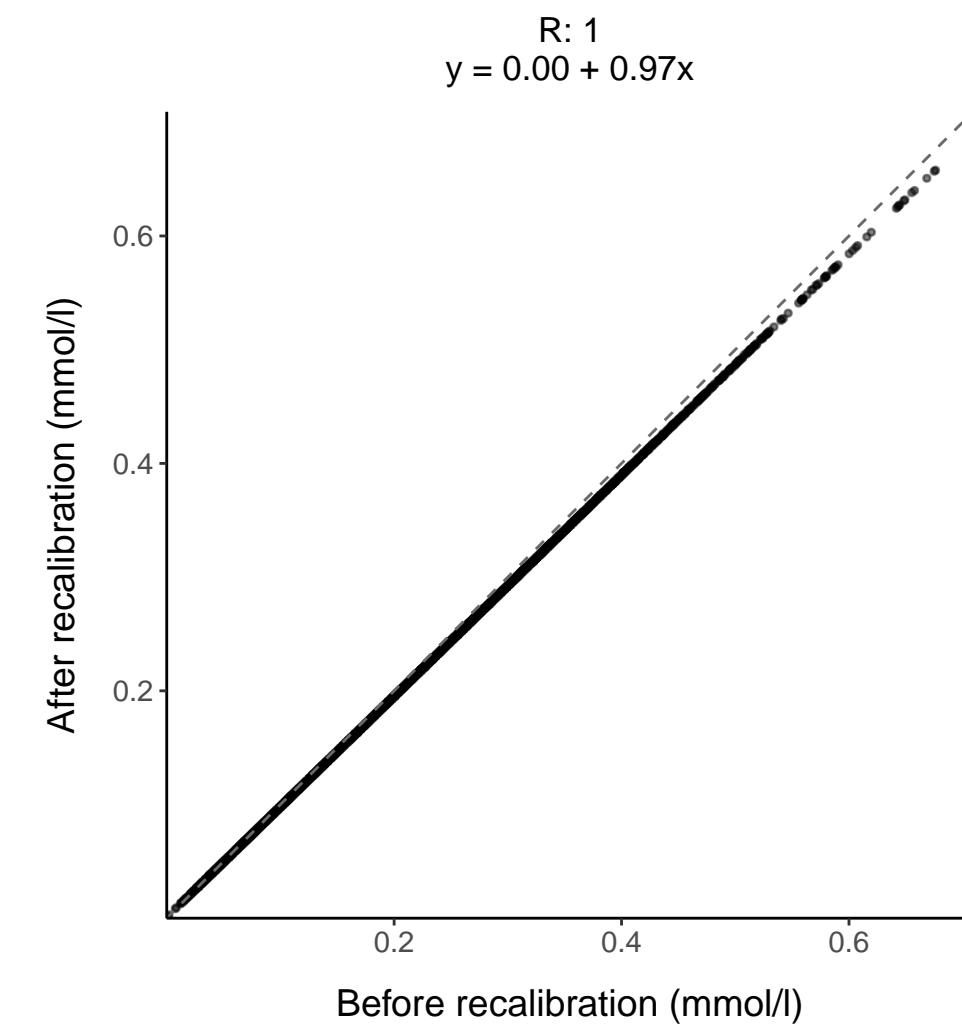
L\_VLDL\_CE



L\_VLDL\_FC



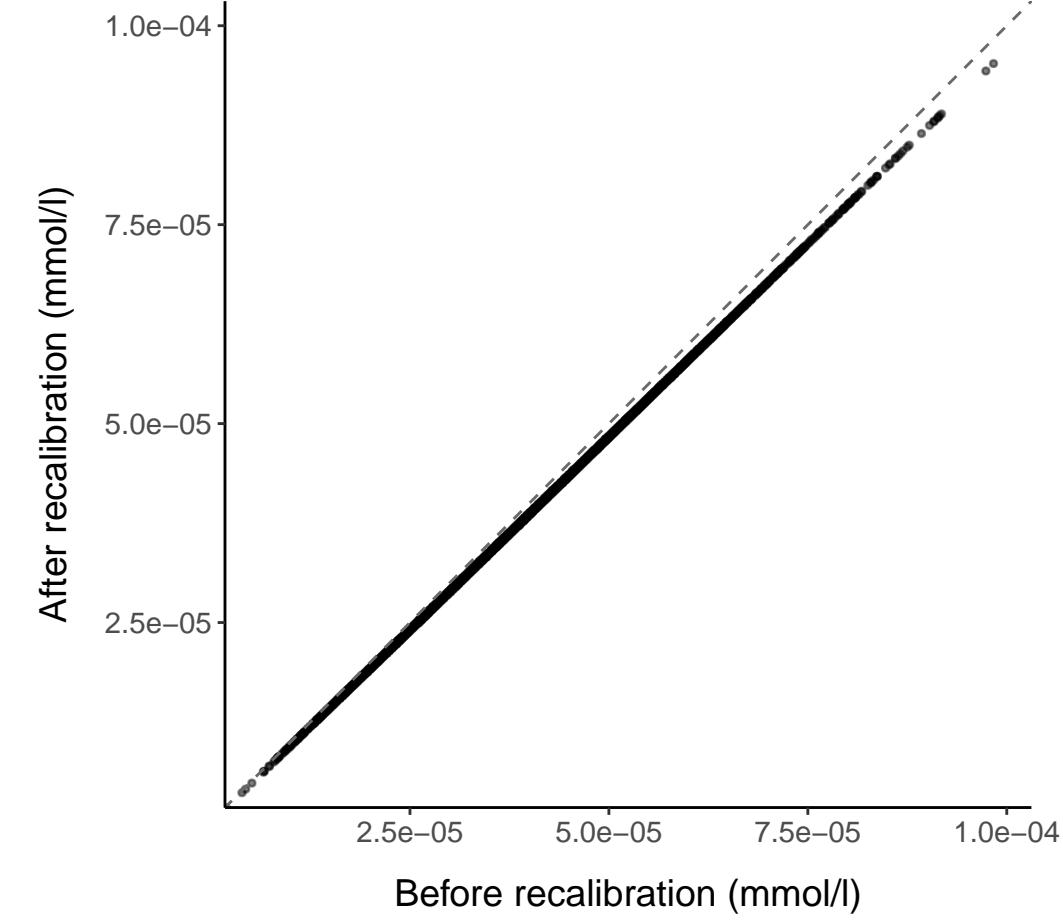
L\_VLDL\_TG



### Medium VLDL (average diameter 44.5 nm)

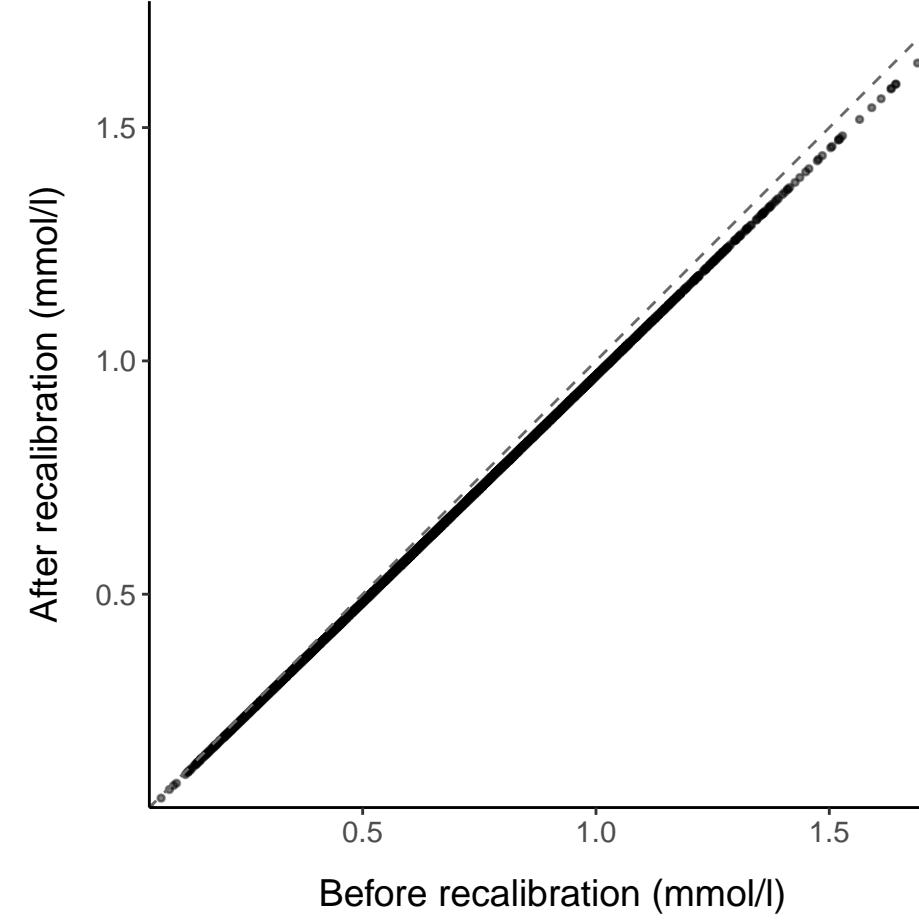
**M\_VLDL\_P**

R: 1  
 $y = -0.00 + 0.97x$



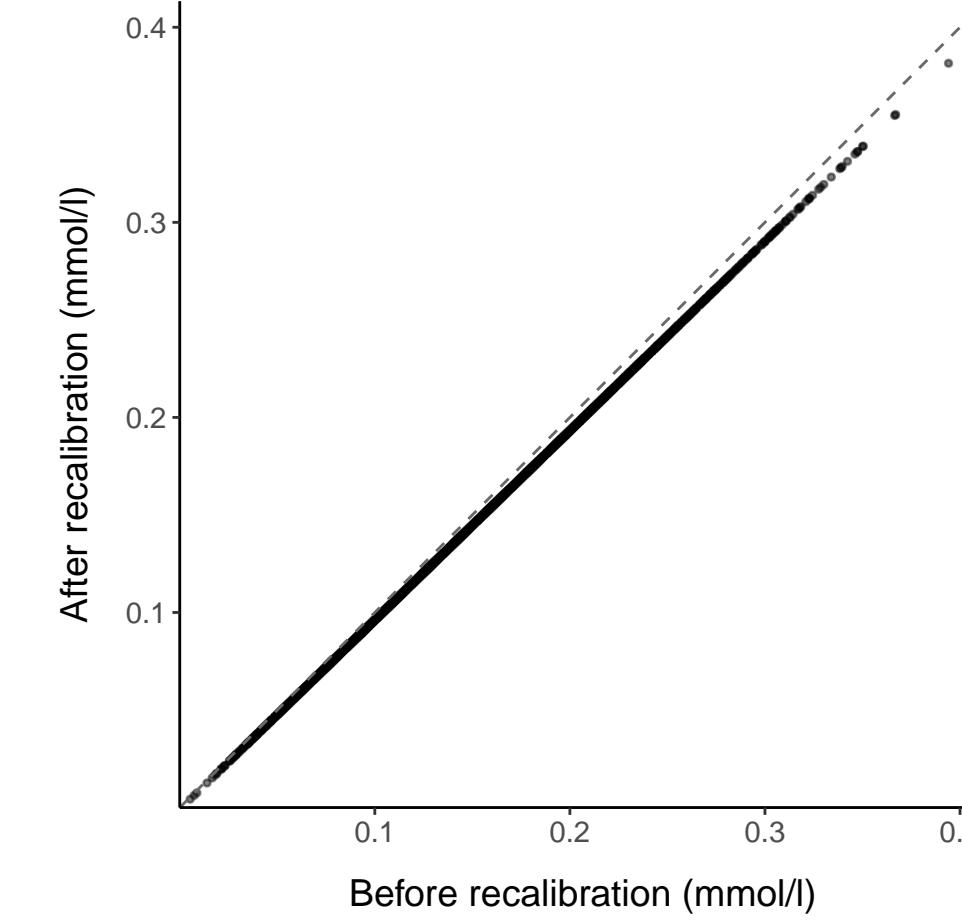
**M\_VLDL\_L**

R: 1  
 $y = -0.00 + 0.97x$



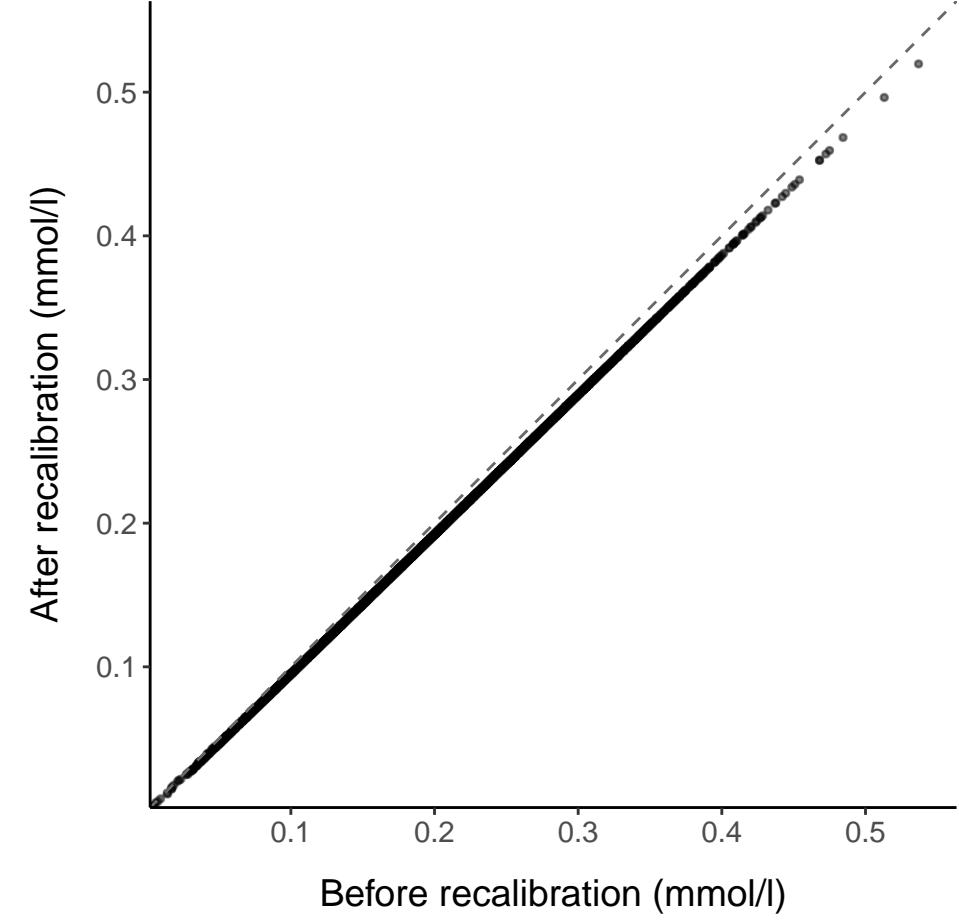
**M\_VLDL\_PL**

R: 1  
 $y = -0.00 + 0.97x$



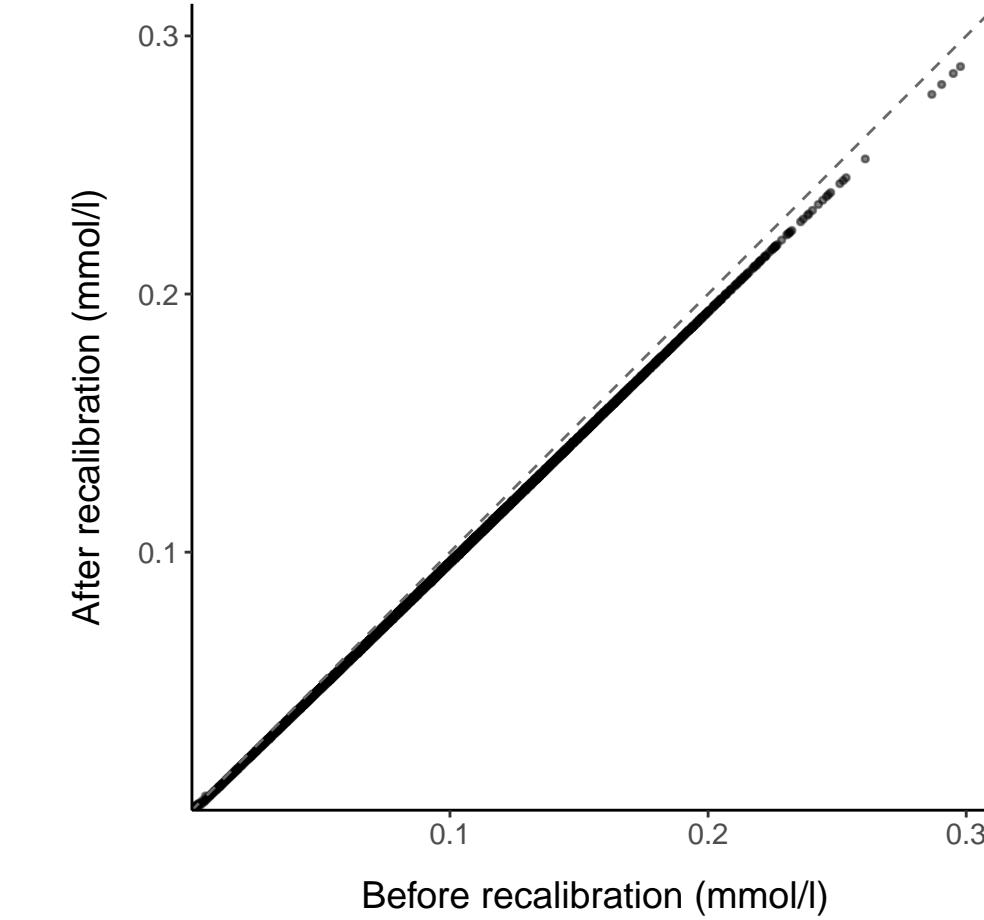
**M\_VLDL\_C**

R: 1  
 $y = -0.00 + 0.97x$



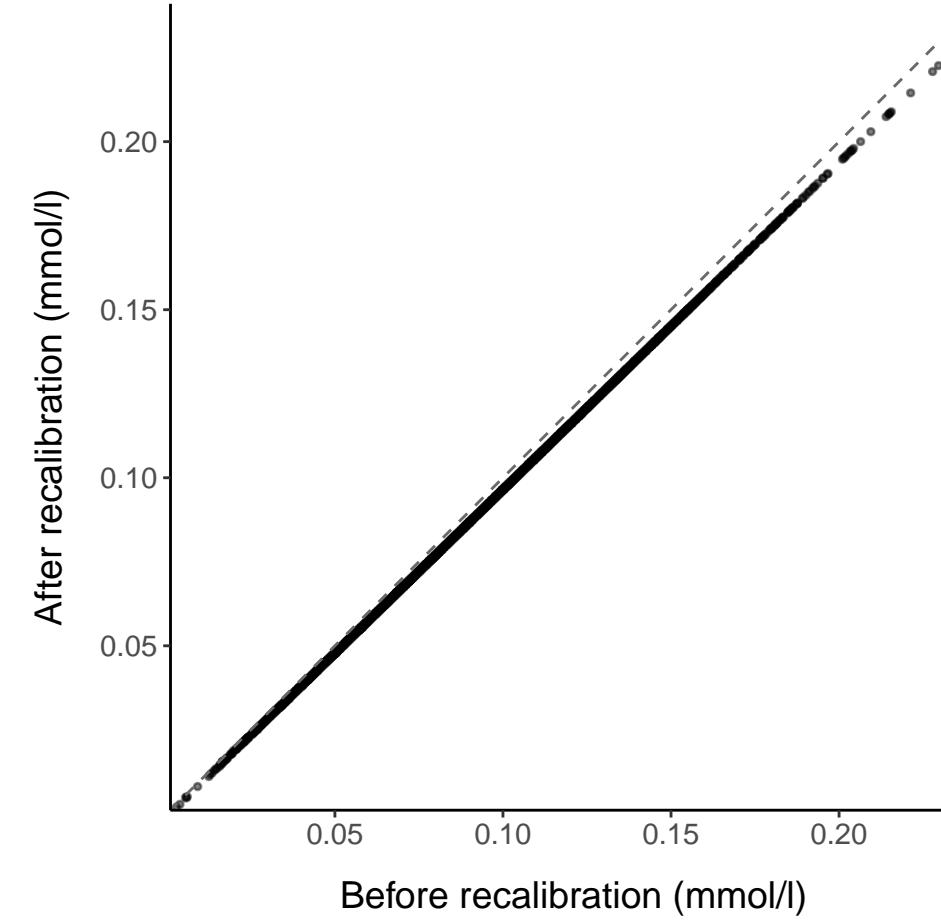
**M\_VLDL\_CE**

R: 1  
 $y = -0.00 + 0.97x$



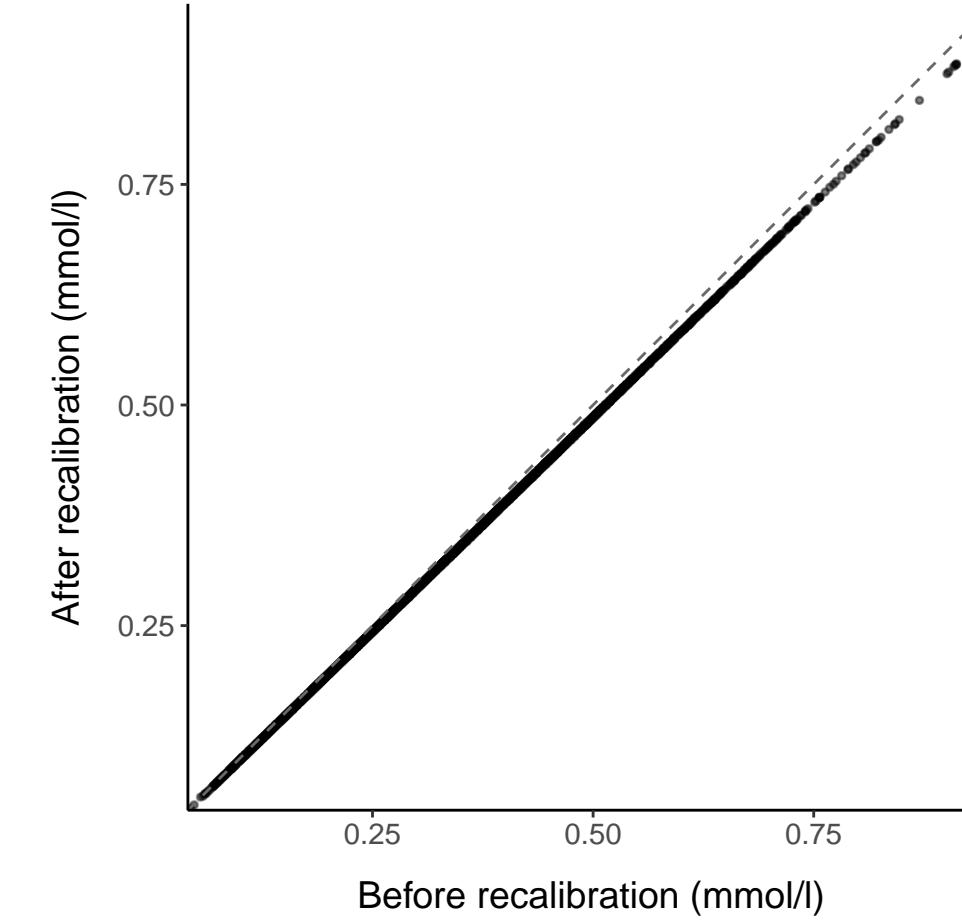
**M\_VLDL\_FC**

R: 1  
 $y = -0.00 + 0.97x$



**M\_VLDL\_TG**

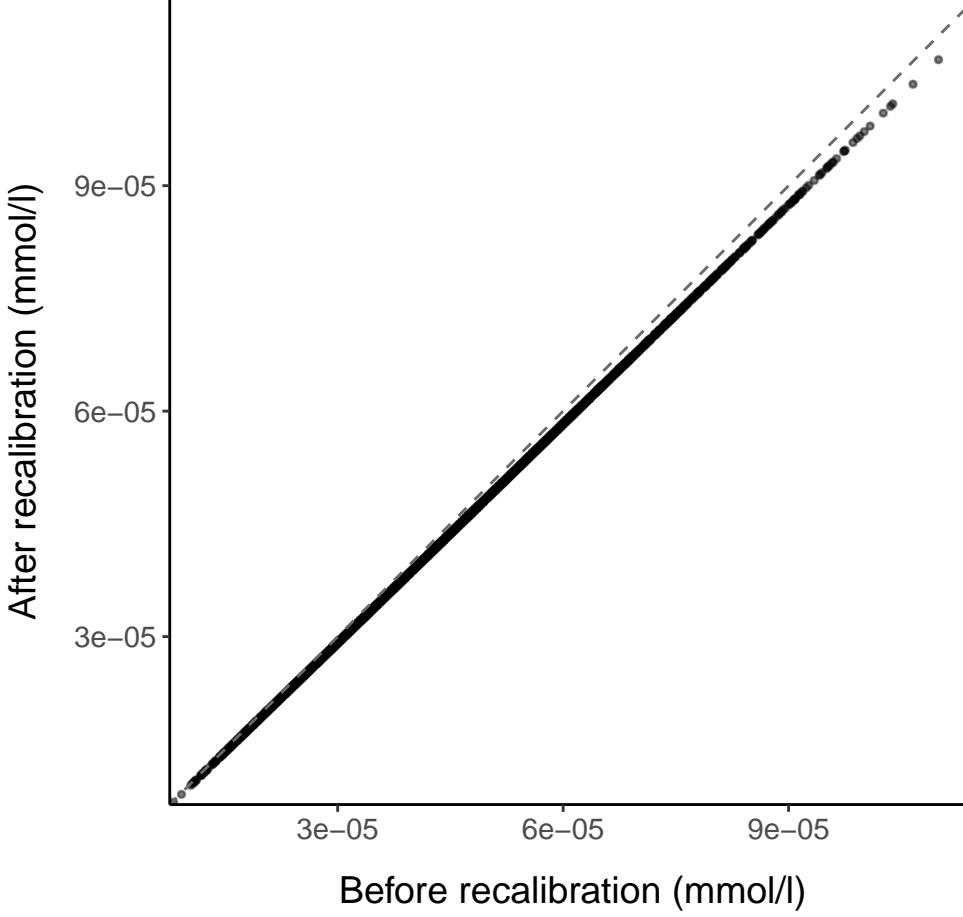
R: 1  
 $y = 0.00 + 0.97x$



### Small VLDL (average diameter 36.8 nm)

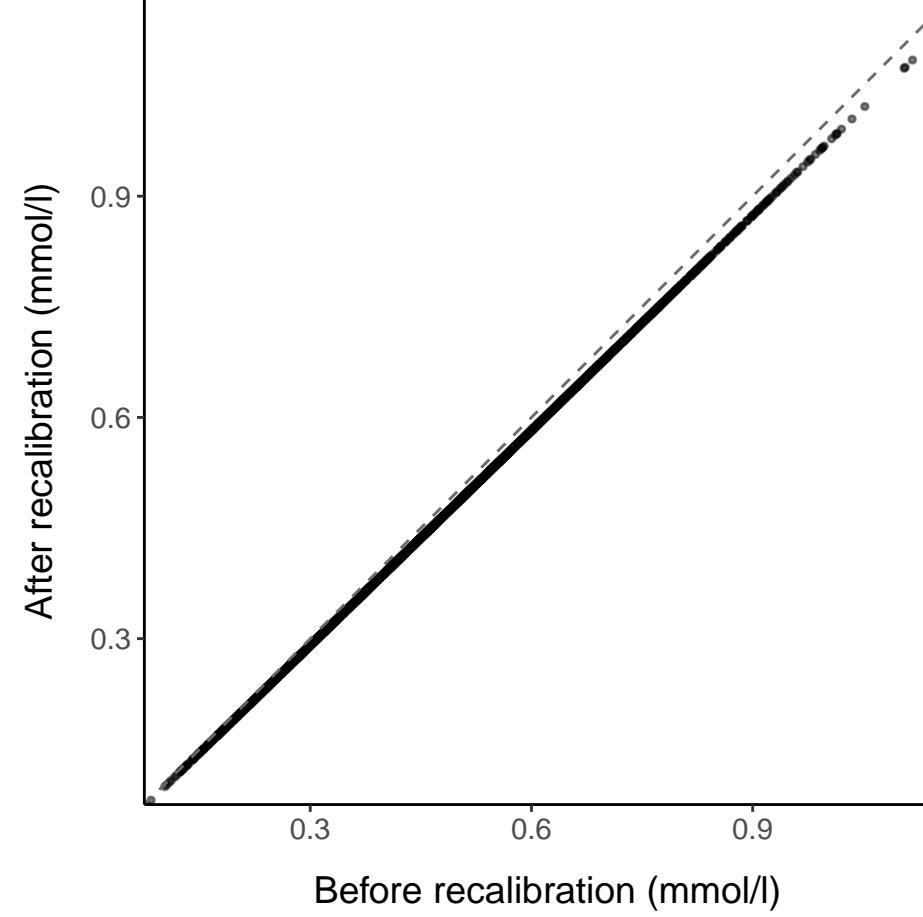
**S\_VLDL\_P**

R: 1  
 $y = 0.00 + 0.97x$



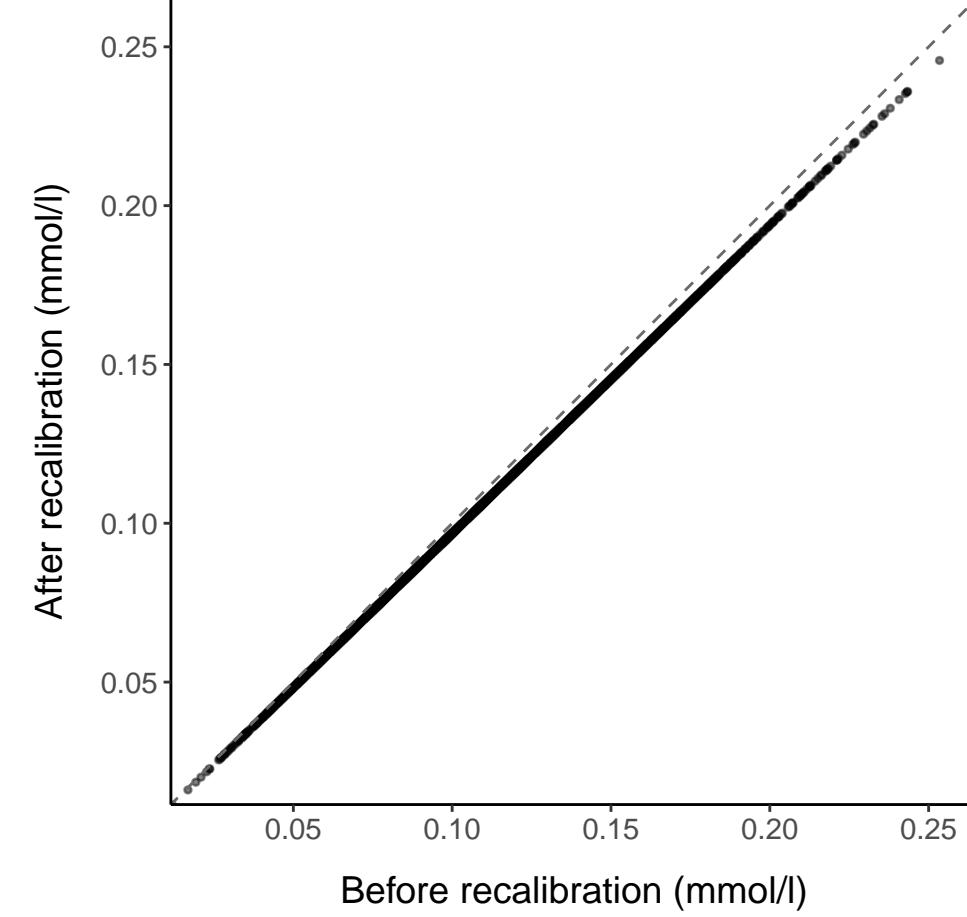
**S\_VLDL\_L**

R: 1  
 $y = -0.00 + 0.97x$



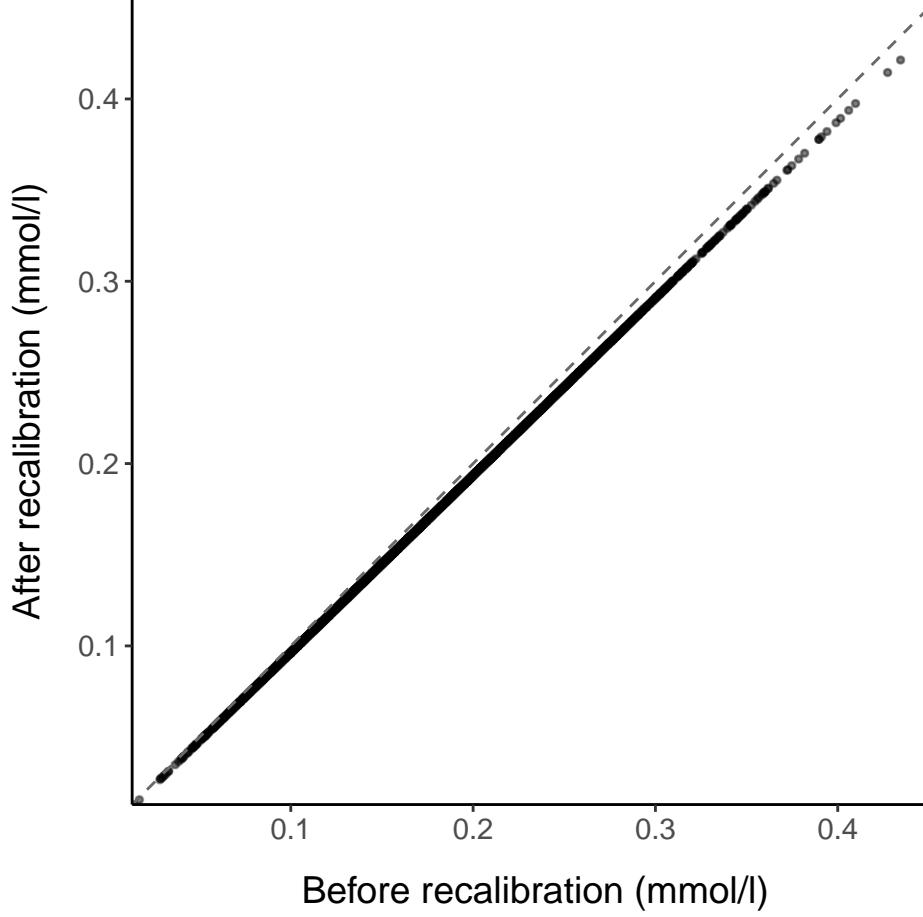
**S\_VLDL\_PL**

R: 1  
 $y = -0.00 + 0.97x$



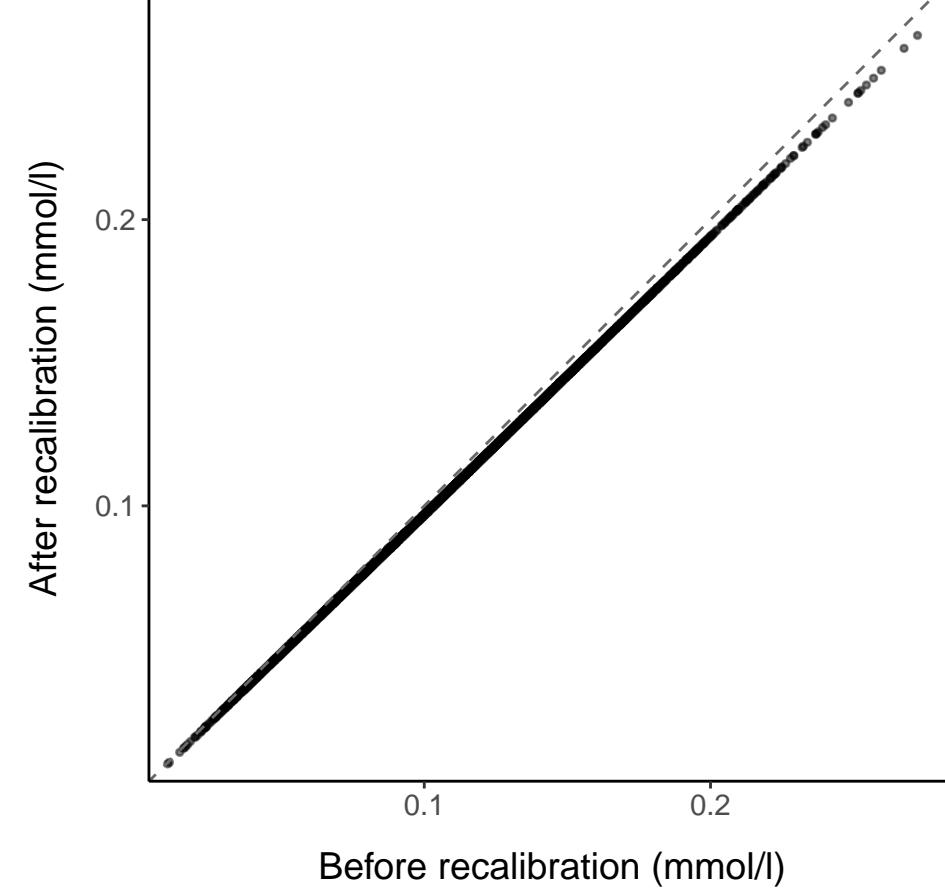
**S\_VLDL\_C**

R: 1  
 $y = -0.00 + 0.97x$



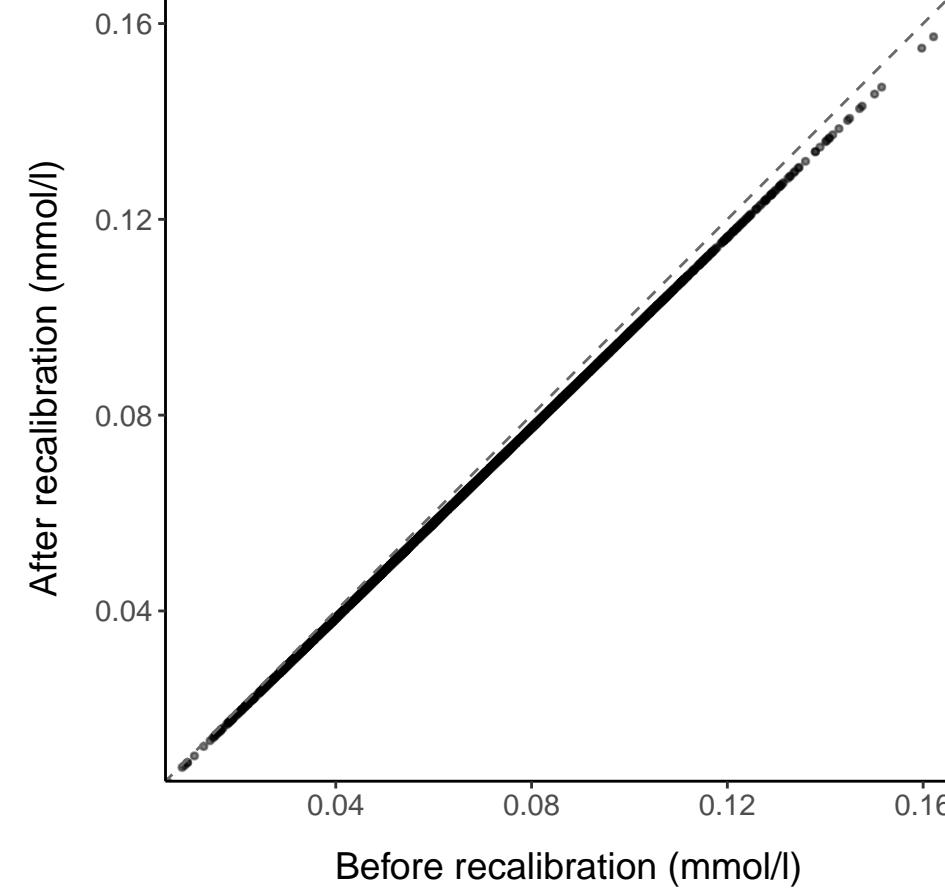
**S\_VLDL\_CE**

R: 1  
 $y = -0.00 + 0.97x$



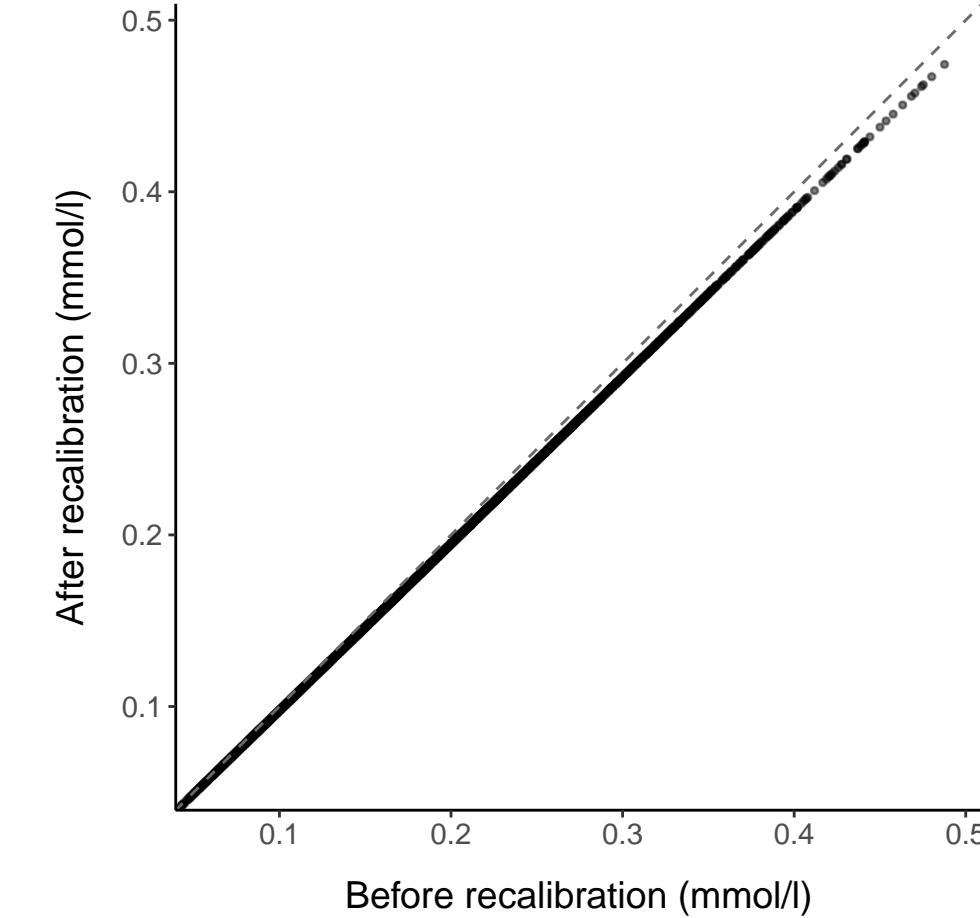
**S\_VLDL\_FC**

R: 1  
 $y = -0.00 + 0.97x$



**S\_VLDL\_TG**

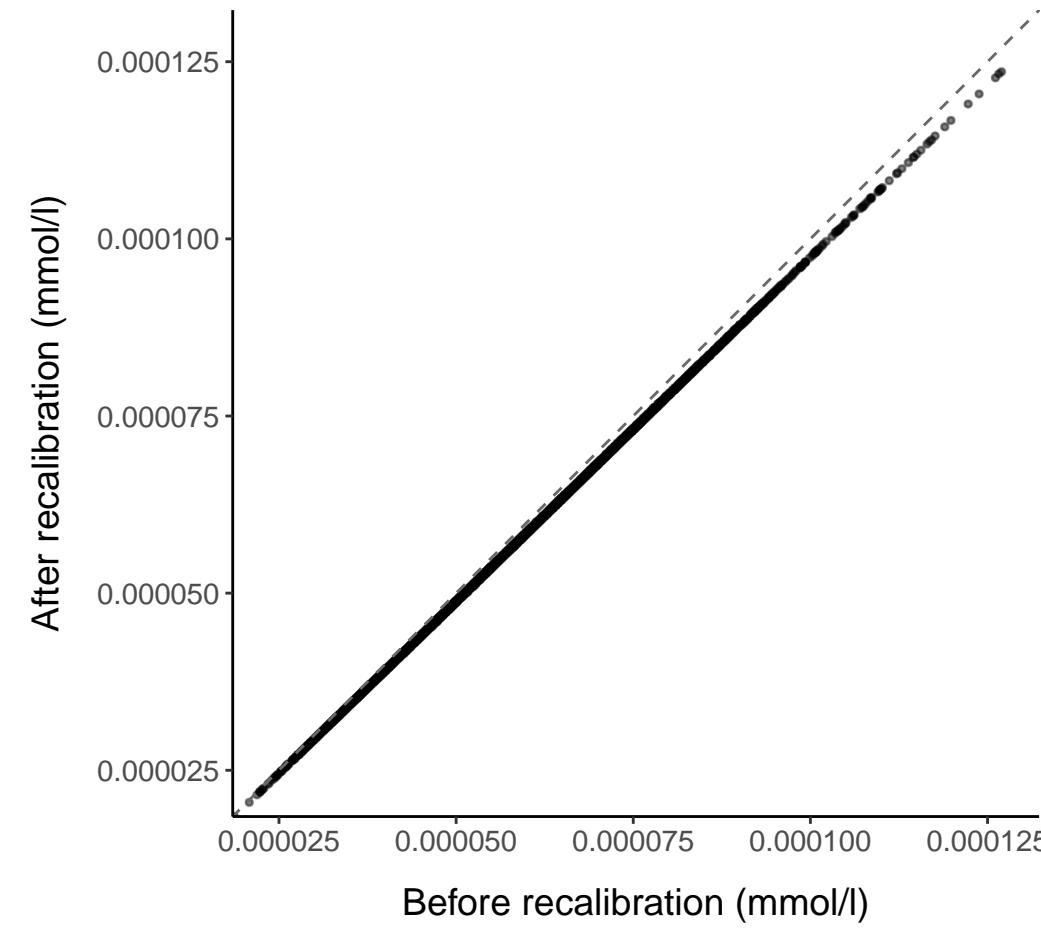
R: 1  
 $y = 0.00 + 0.97x$



### Very small VLDL (average diameter 31.3 nm)

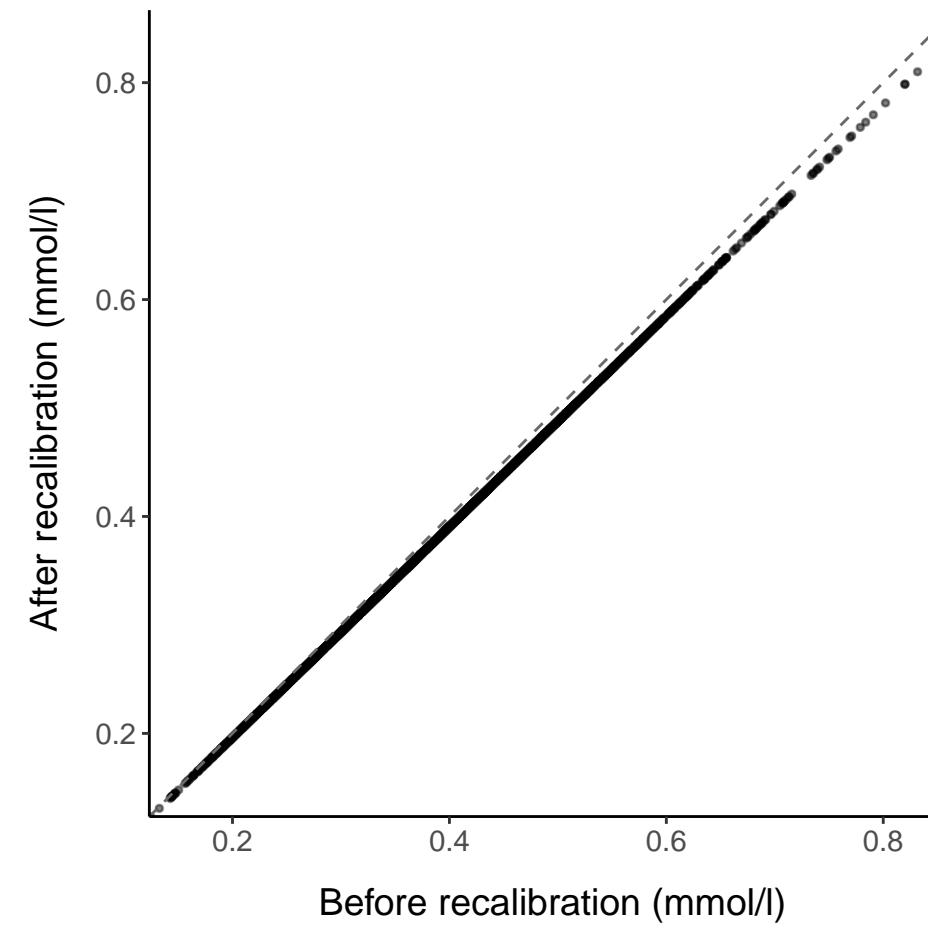
**XS\_VLDL\_P**

R: 1  
 $y = 0.00 + 0.97x$



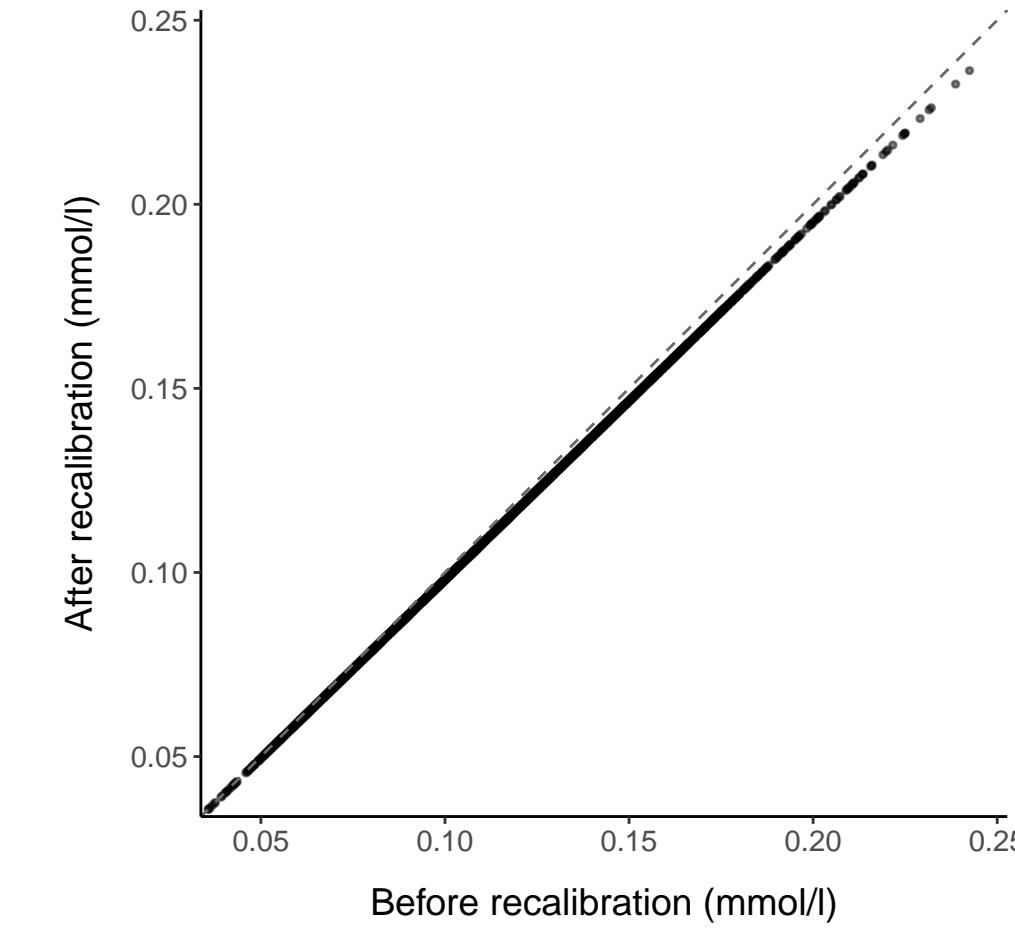
**XS\_VLDL\_L**

R: 1  
 $y = 0.00 + 0.97x$



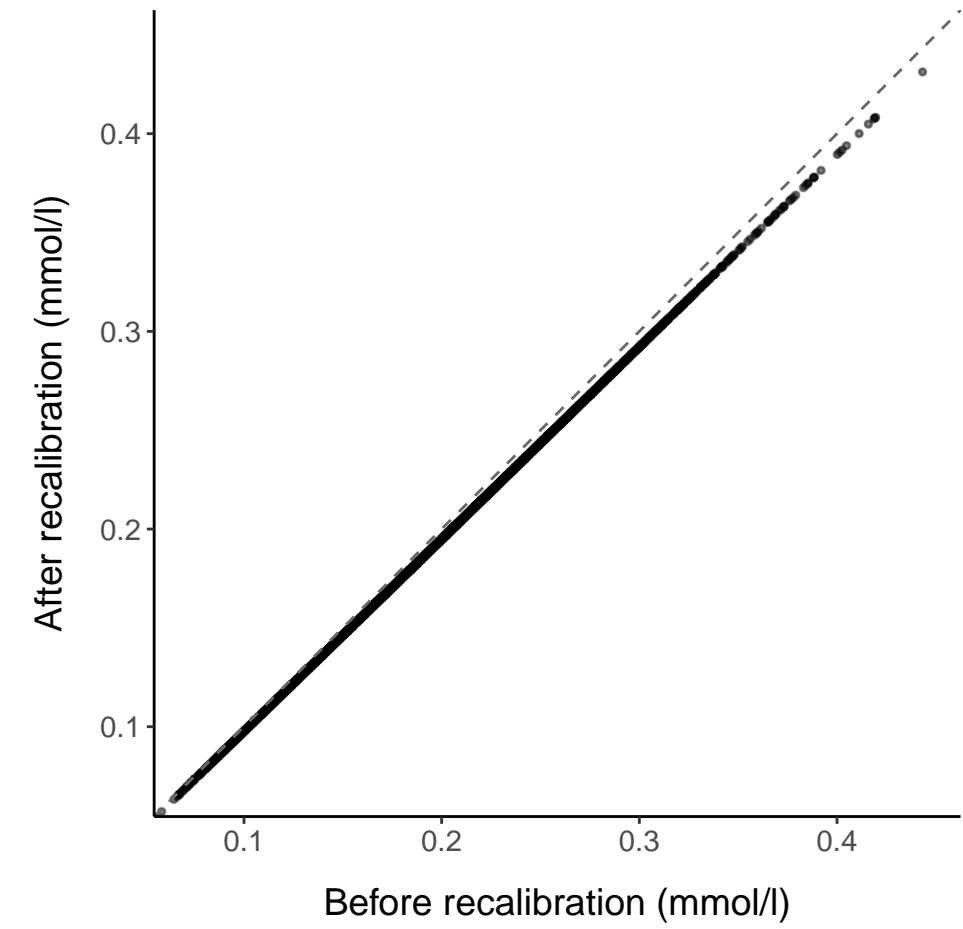
**XS\_VLDL\_PL**

R: 1  
 $y = 0.00 + 0.97x$



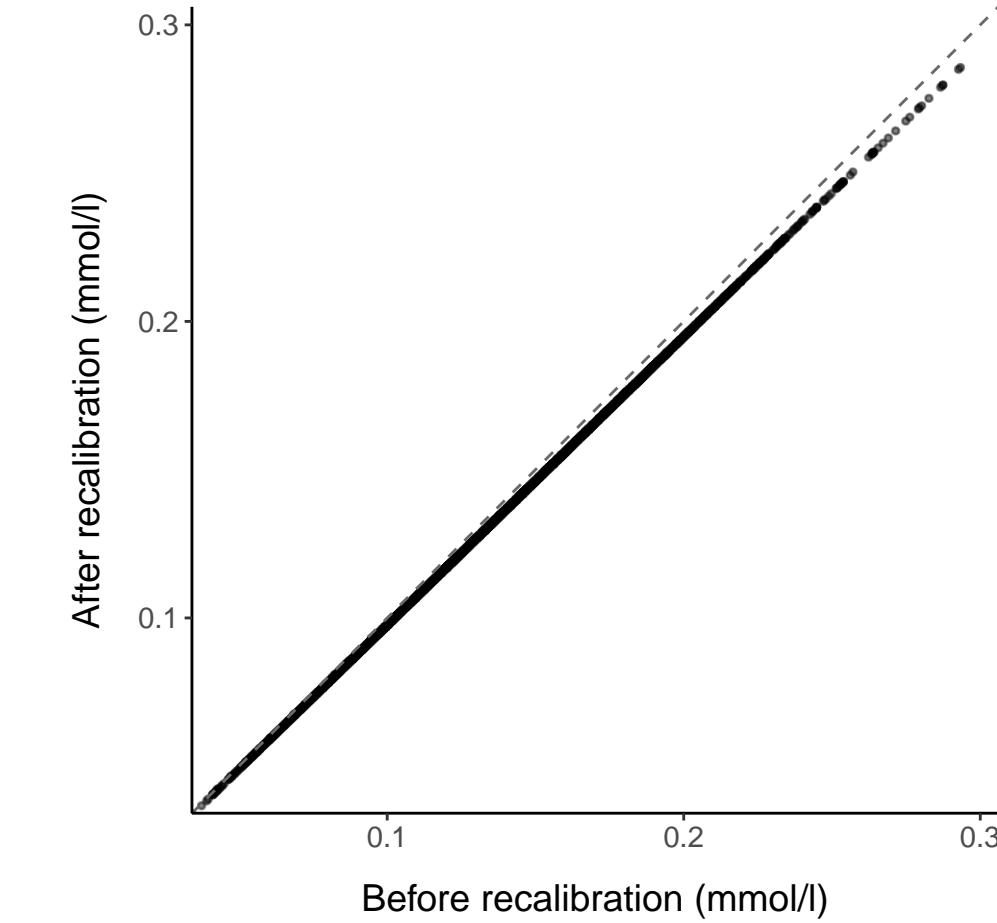
**XS\_VLDL\_C**

R: 1  
 $y = 0.00 + 0.97x$



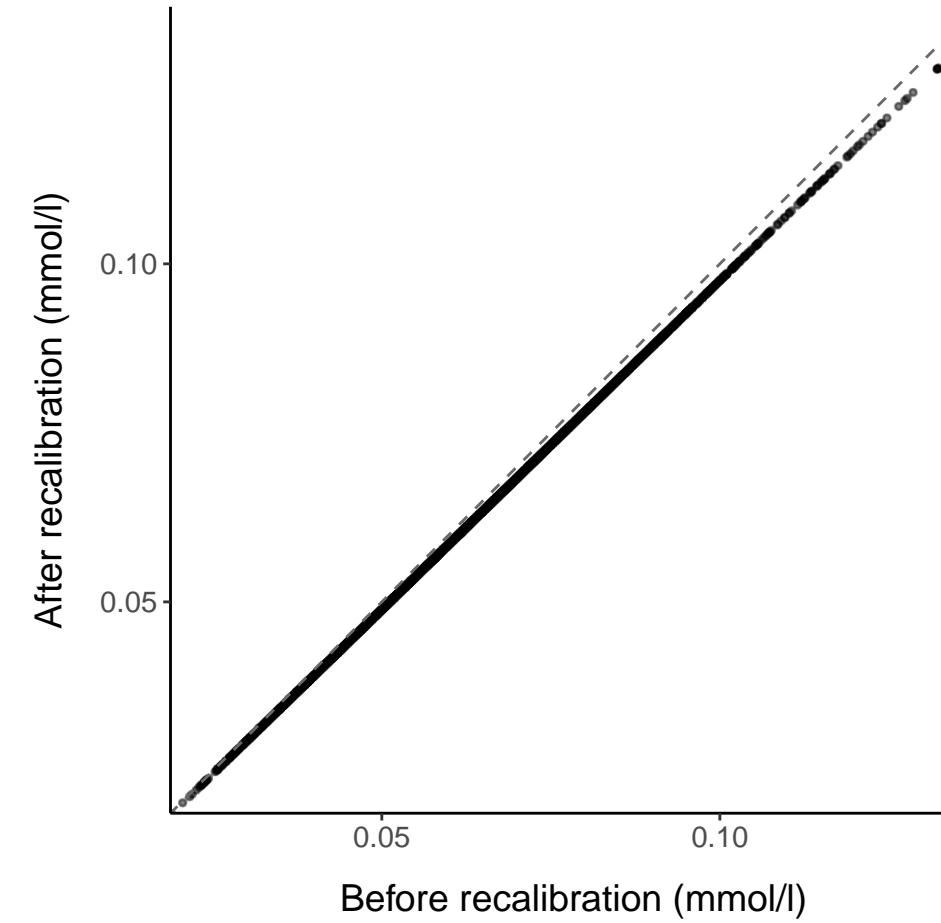
**XS\_VLDL\_CE**

R: 1  
 $y = 0.00 + 0.97x$



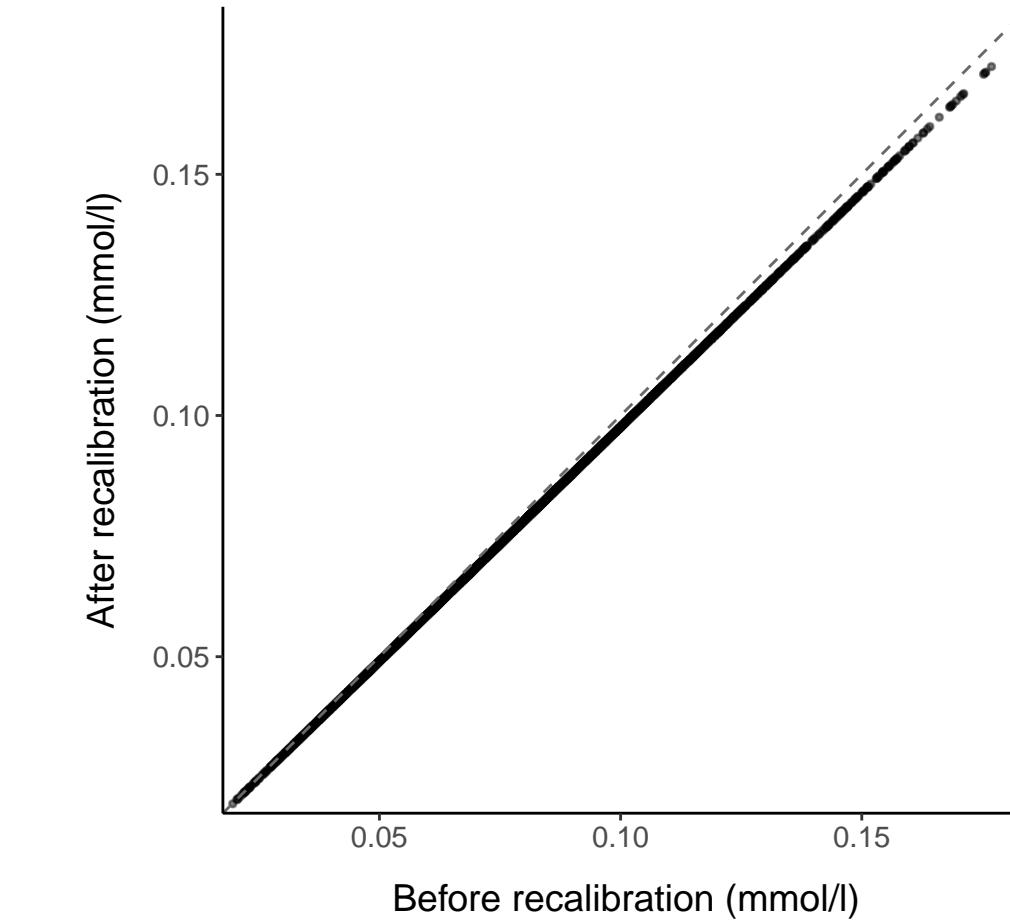
**XS\_VLDL\_FC**

R: 1  
 $y = 0.00 + 0.97x$



**XS\_VLDL\_TG**

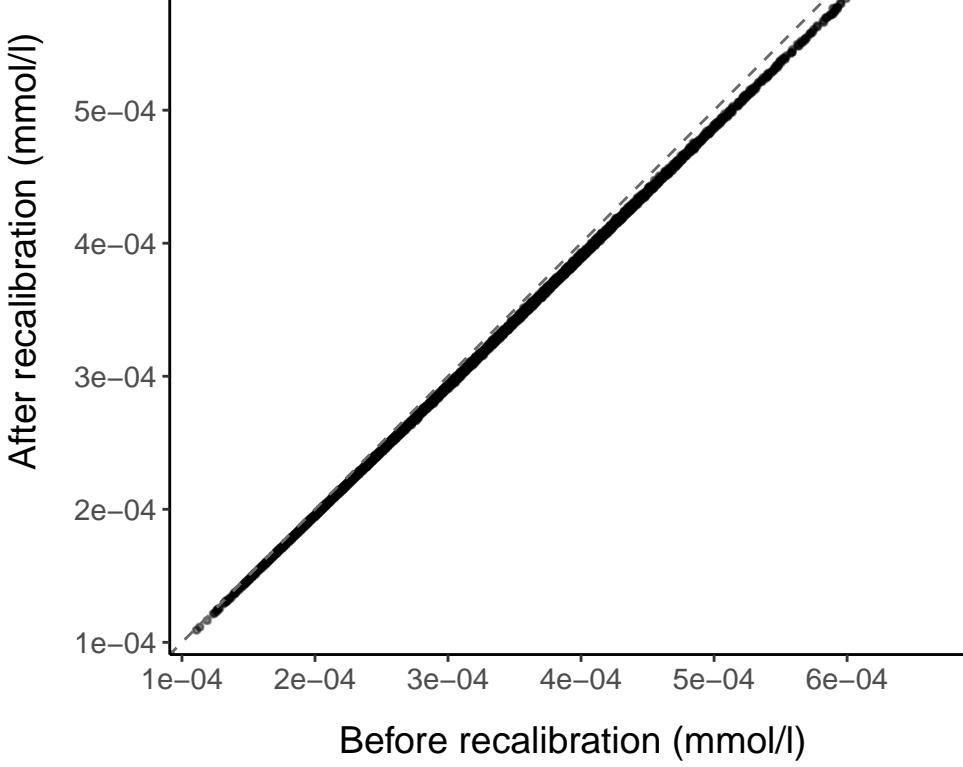
R: 1  
 $y = 0.00 + 0.97x$



## IDL (average diameter 28.6 nm)

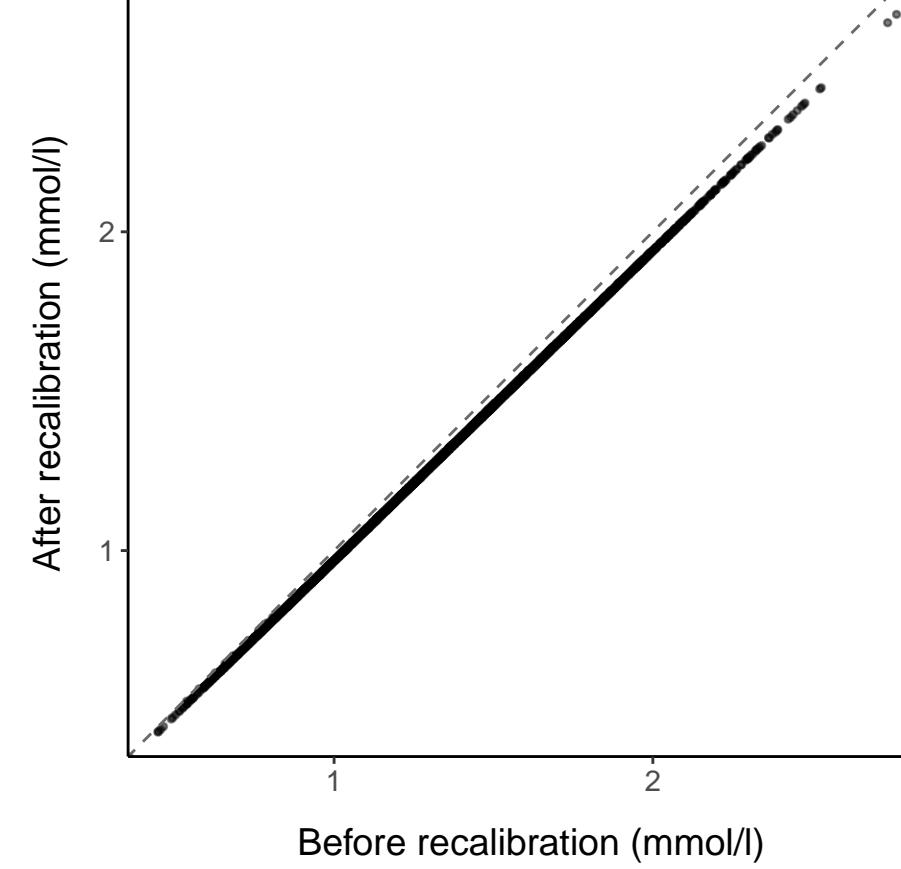
**IDL\_P**

R: 1  
 $y = 0.00 + 0.97x$



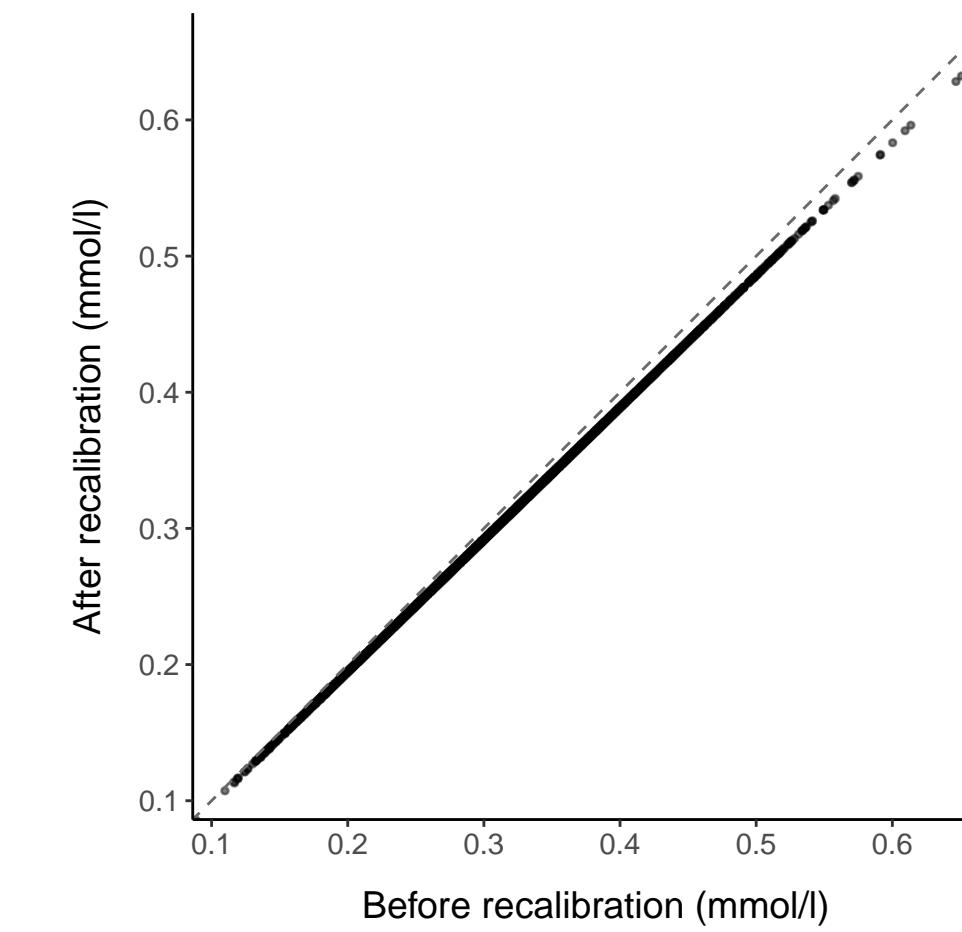
**IDL\_L**

R: 1  
 $y = -0.00 + 0.97x$



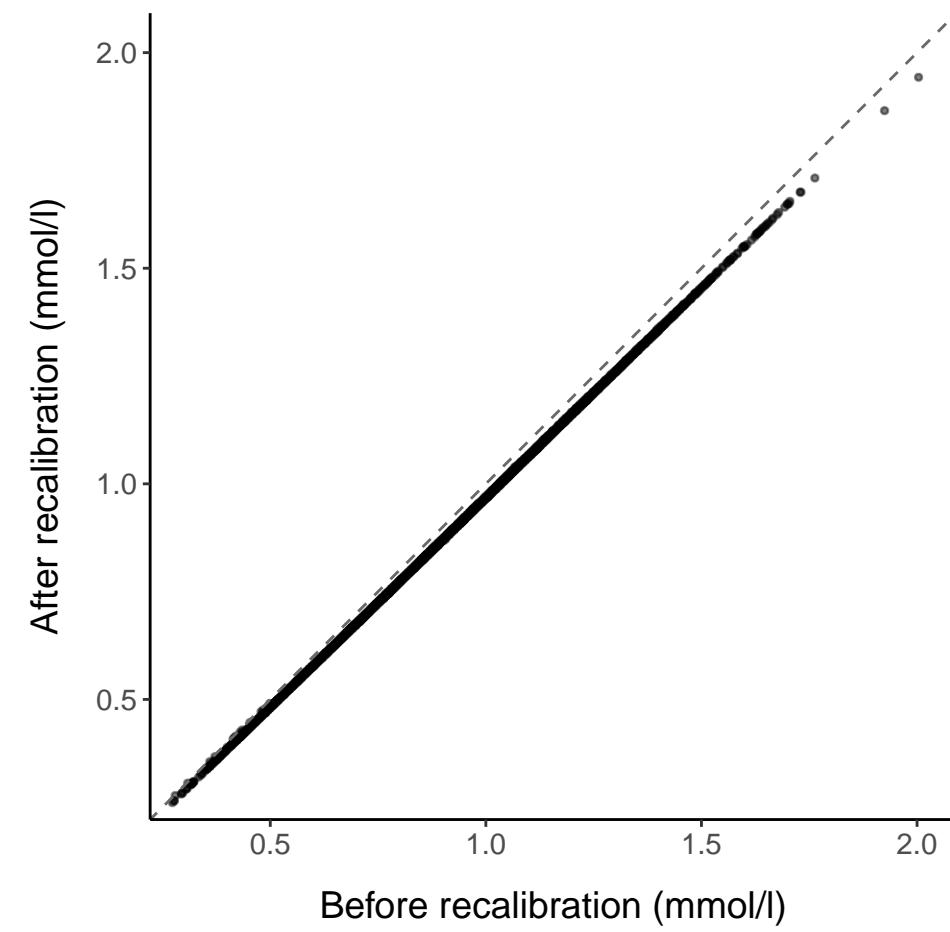
**IDL\_PL**

R: 1  
 $y = 0.00 + 0.97x$



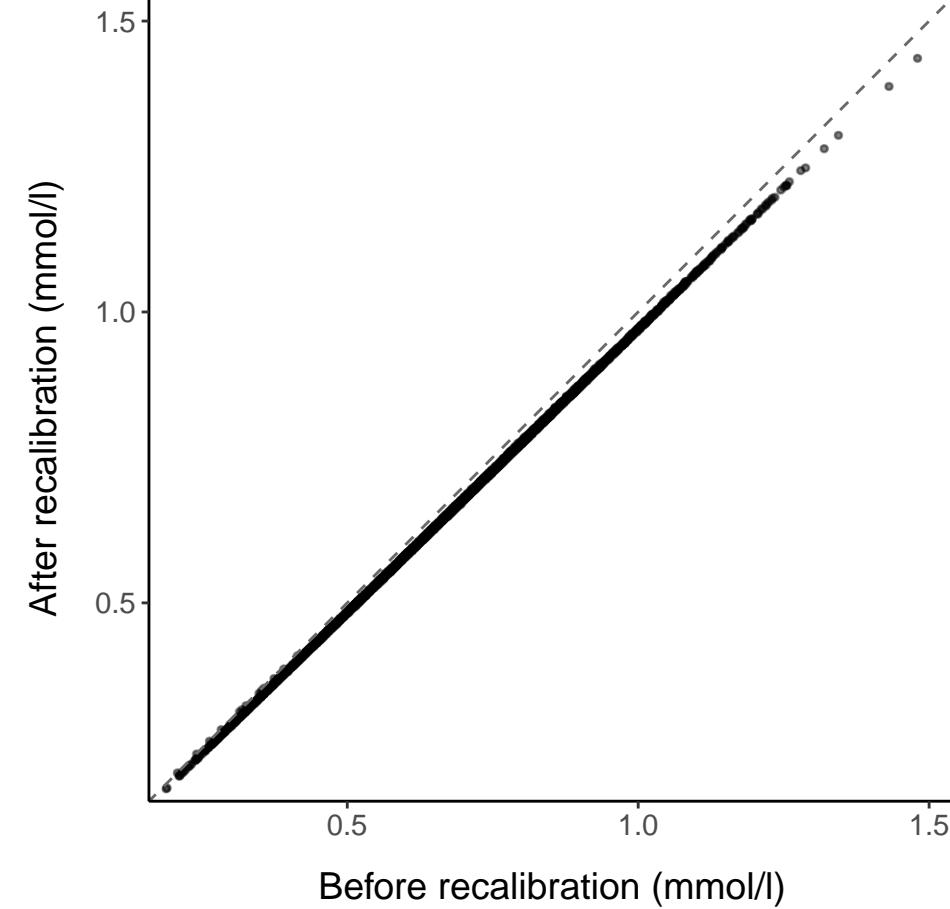
**IDL\_C**

R: 1  
 $y = -0.00 + 0.97x$



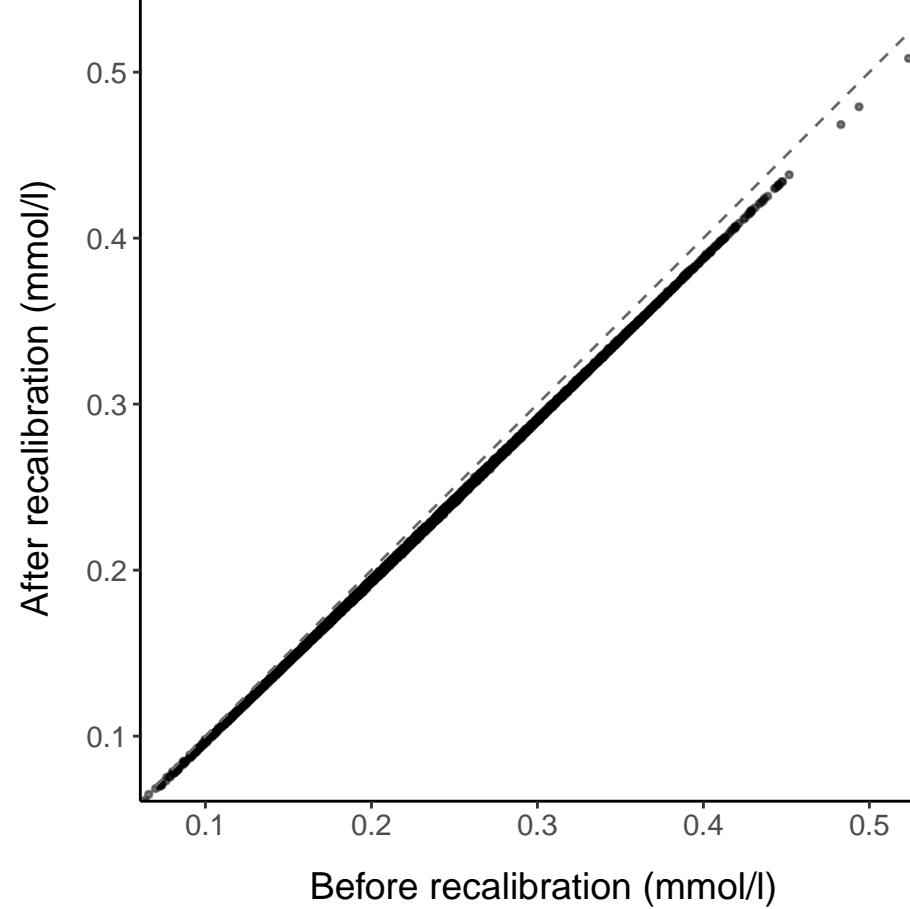
**IDL\_CE**

R: 1  
 $y = -0.00 + 0.97x$



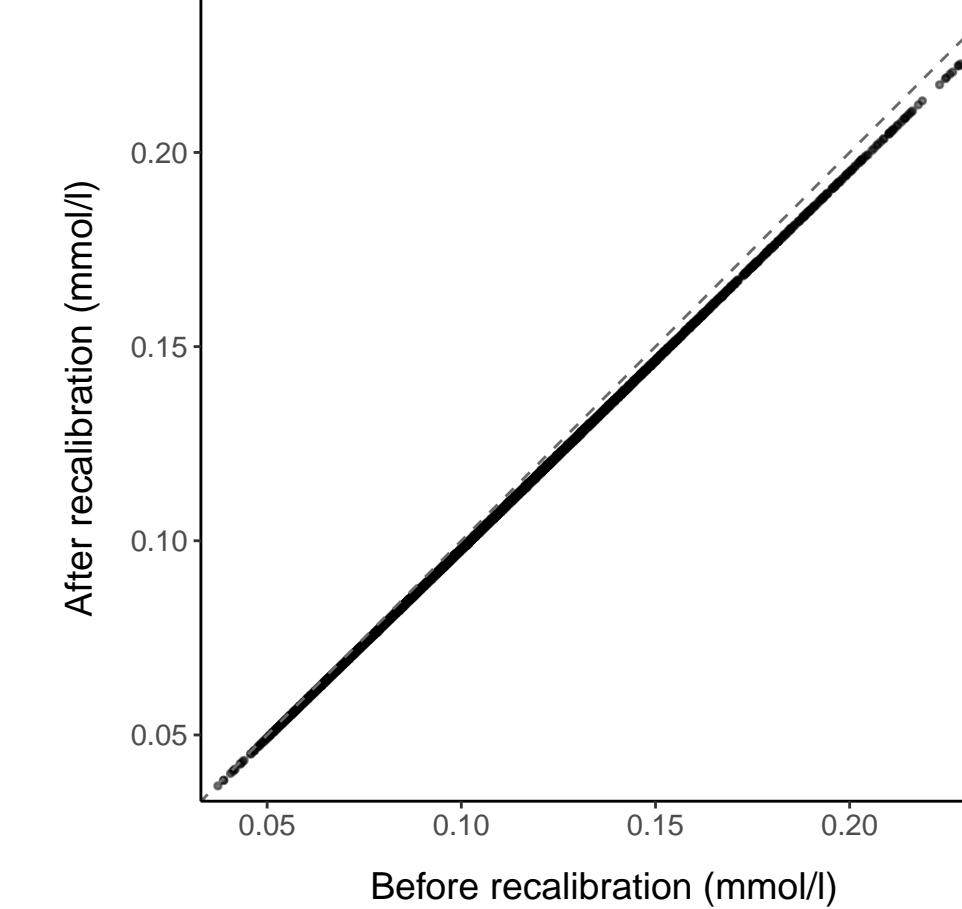
**IDL\_FC**

R: 1  
 $y = -0.00 + 0.97x$



**IDL\_TG**

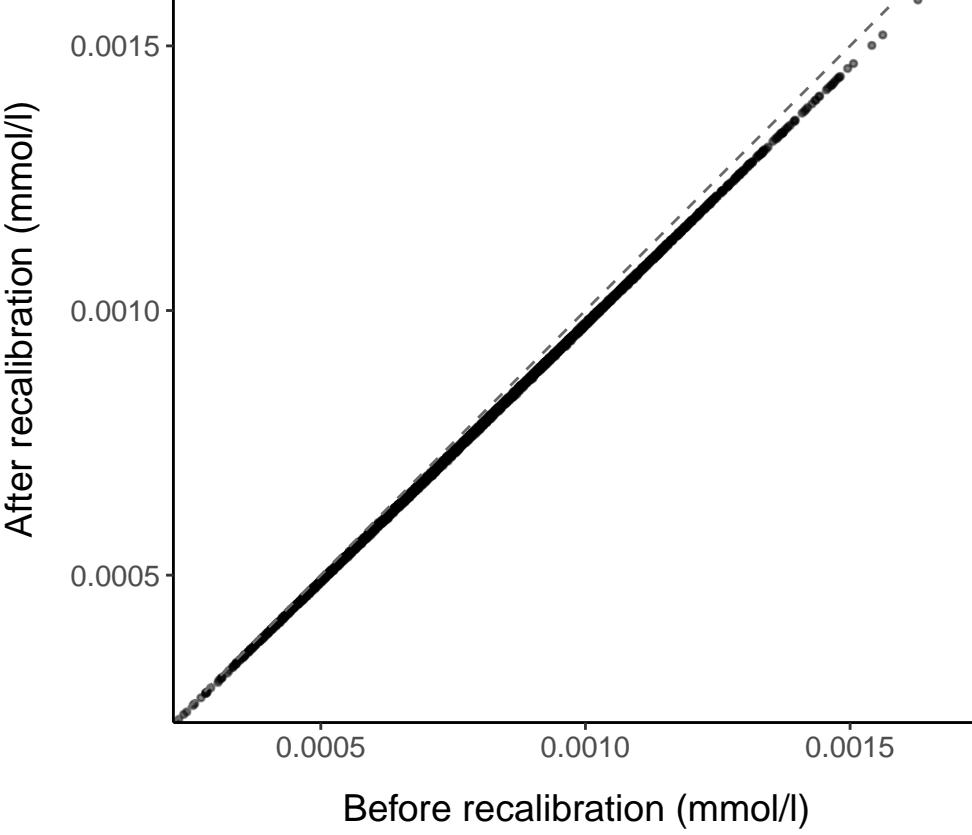
R: 1  
 $y = 0.00 + 0.97x$



## Large LDL (average diameter 25.5 nm)

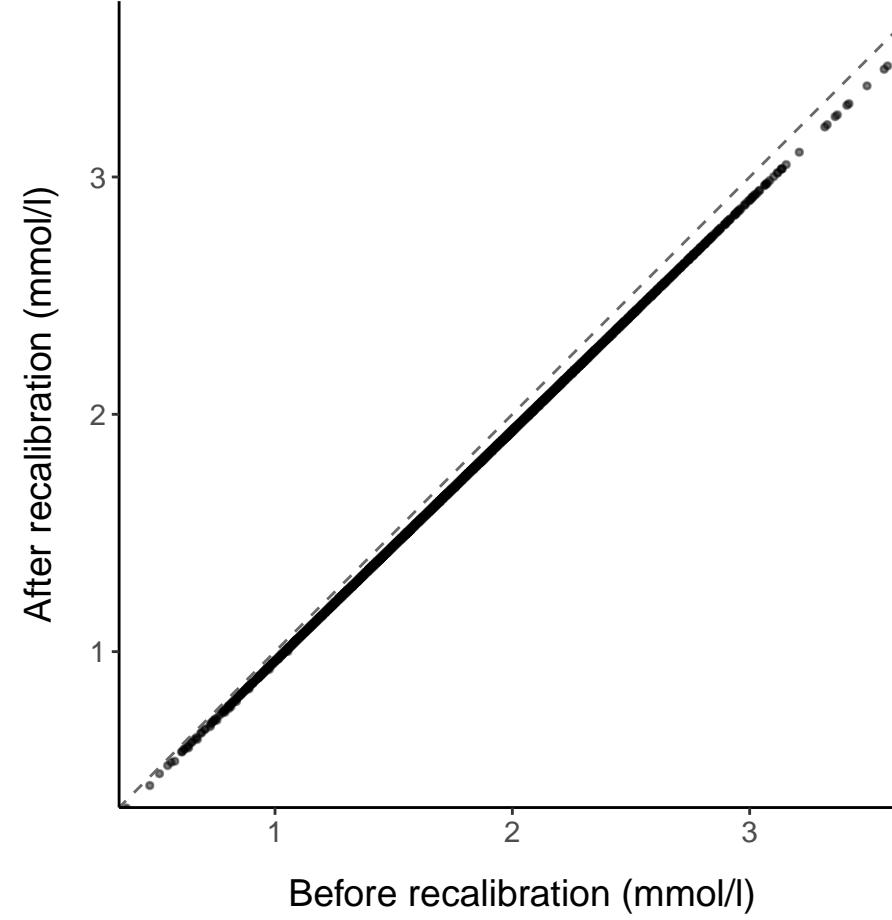
L\_LDL\_P

R: 1  
 $y = 0.00 + 0.97x$



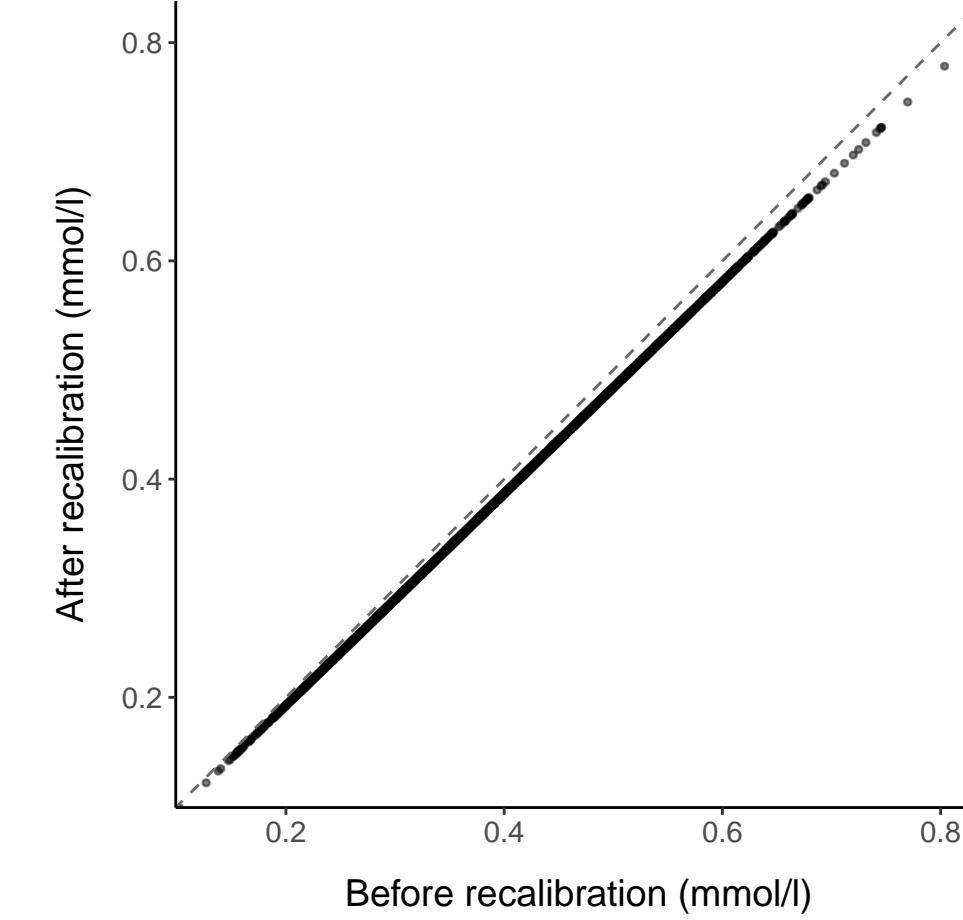
L\_LDL\_L

R: 1  
 $y = -0.01 + 0.97x$



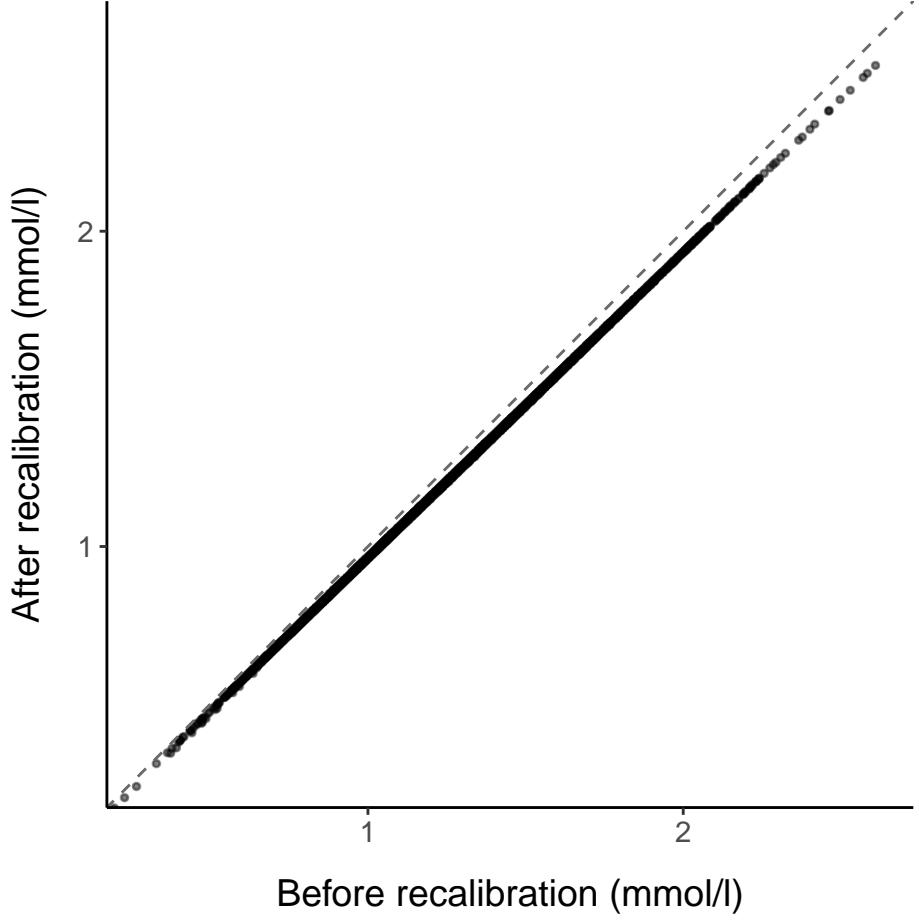
L\_LDL\_PL

R: 1  
 $y = -0.00 + 0.97x$



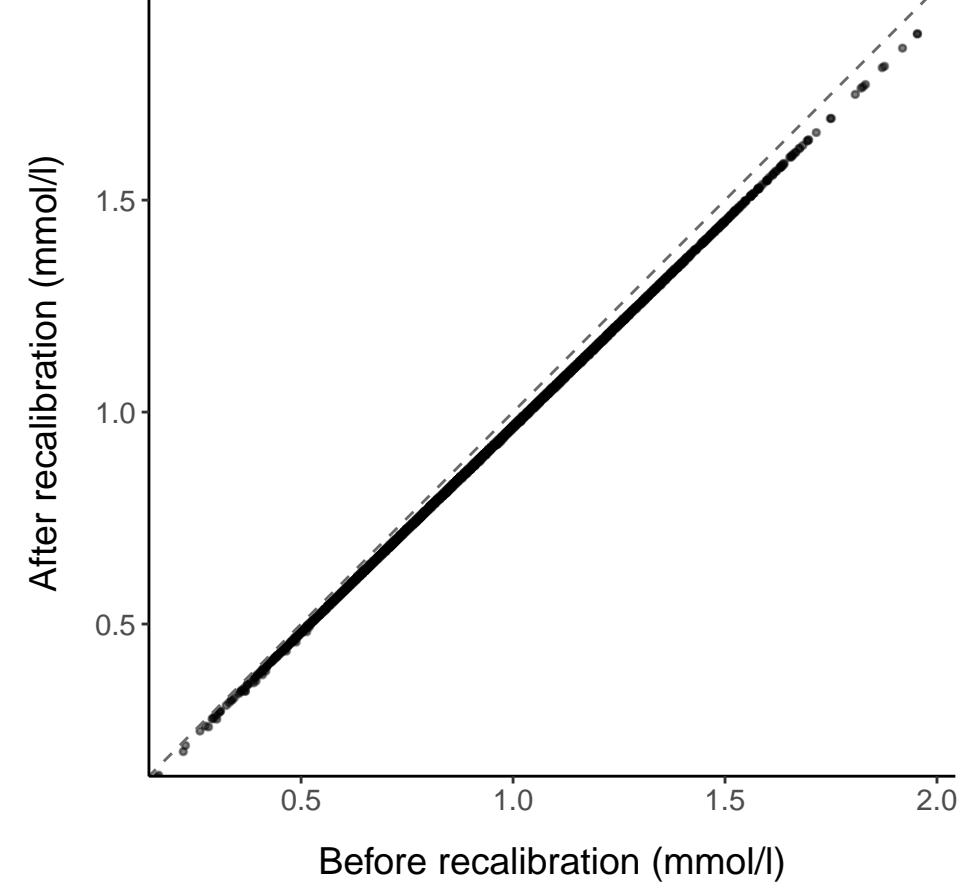
L\_LDL\_C

R: 1  
 $y = -0.01 + 0.97x$



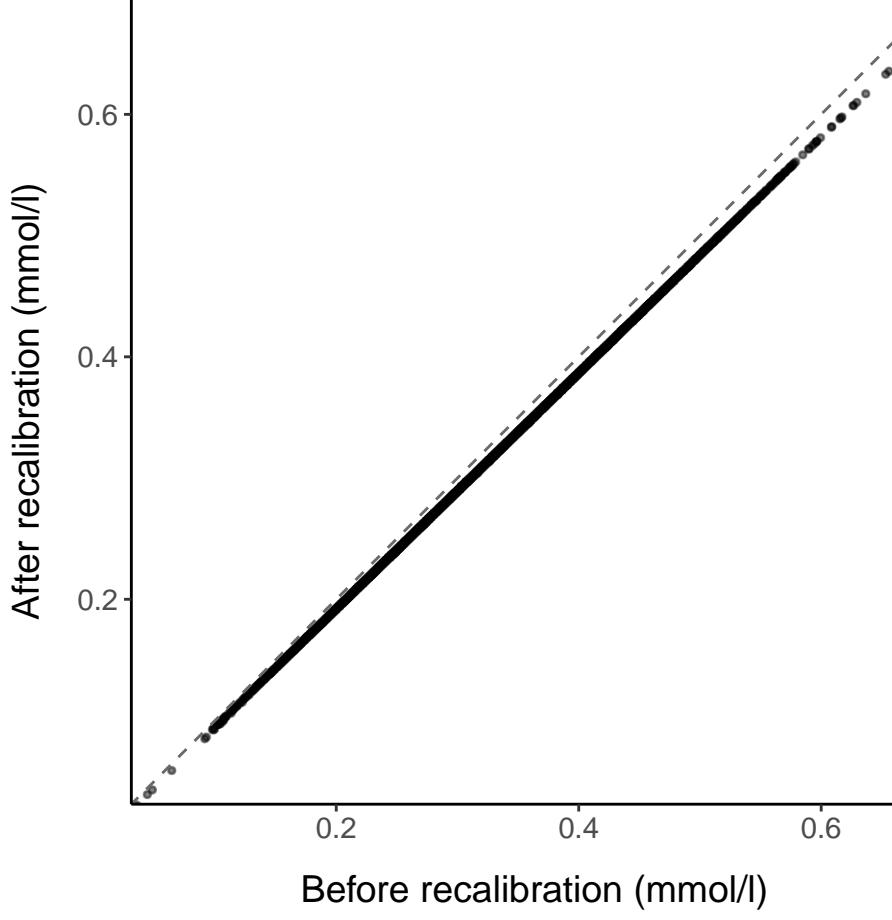
L\_LDL\_CE

R: 1  
 $y = -0.01 + 0.97x$



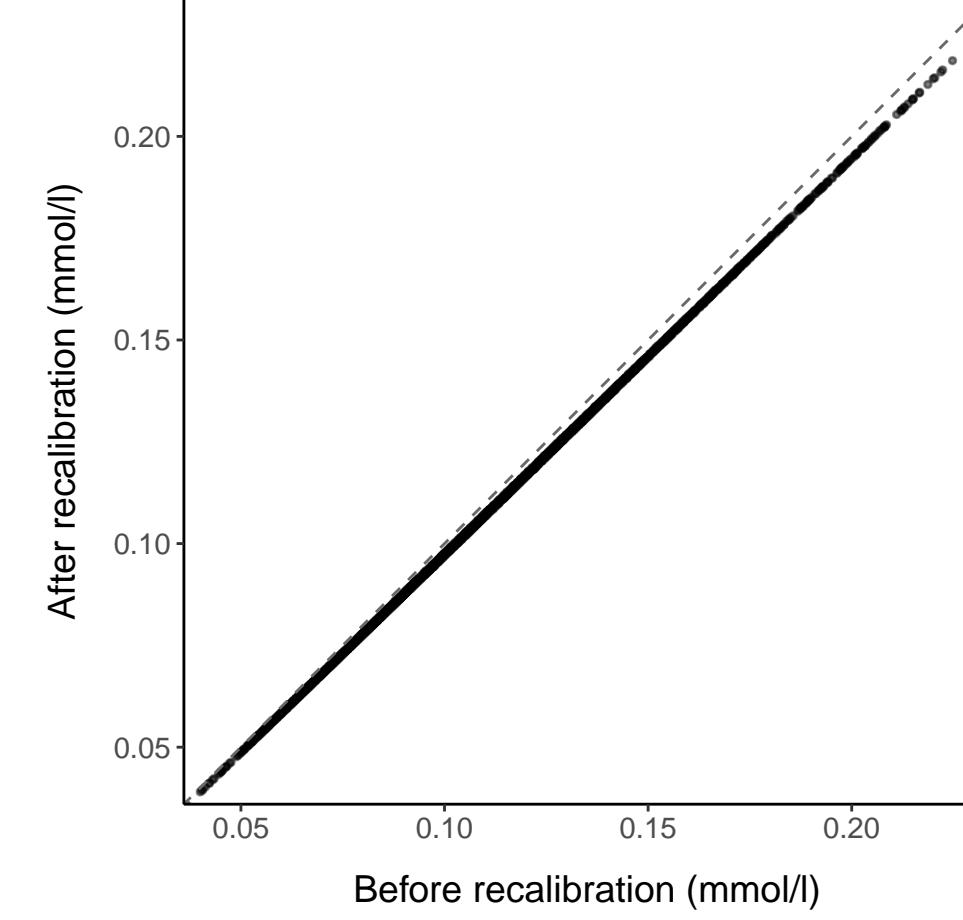
L\_LDL\_FC

R: 1  
 $y = -0.00 + 0.97x$



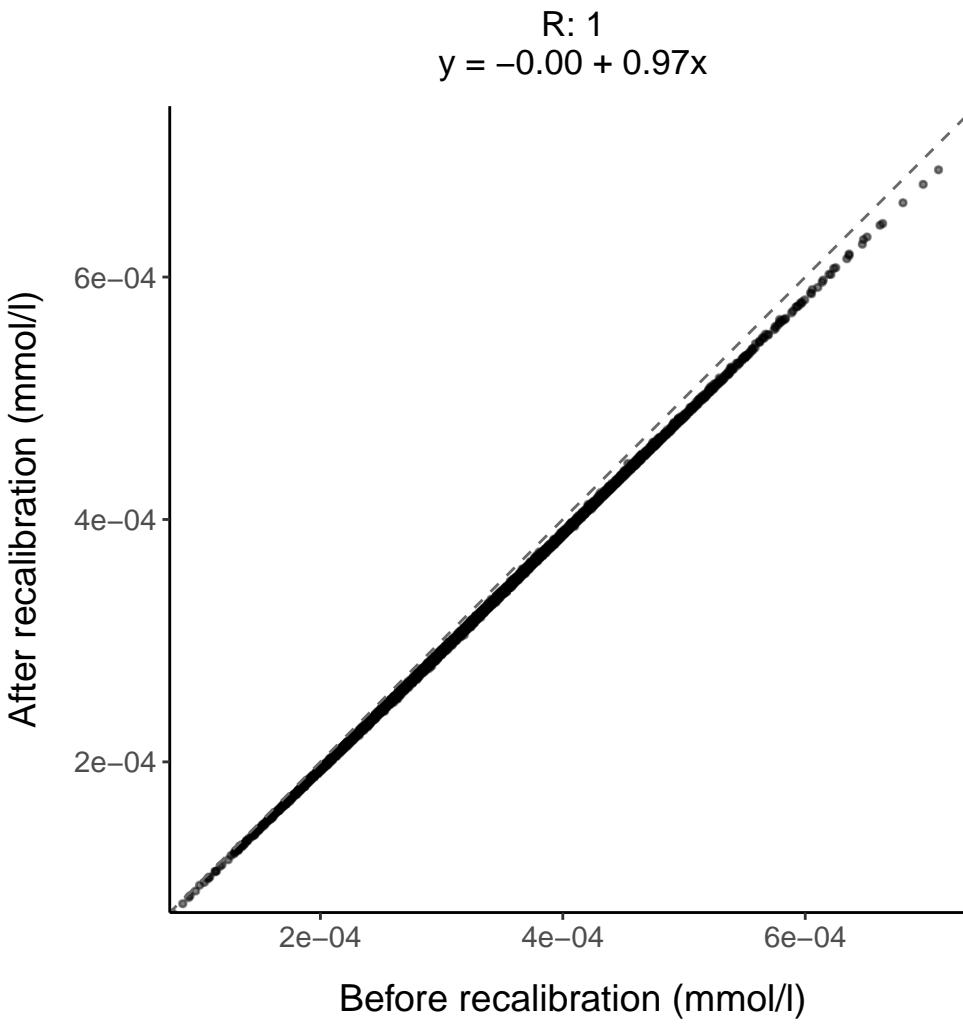
L\_LDL\_TG

R: 1  
 $y = -0.00 + 0.97x$

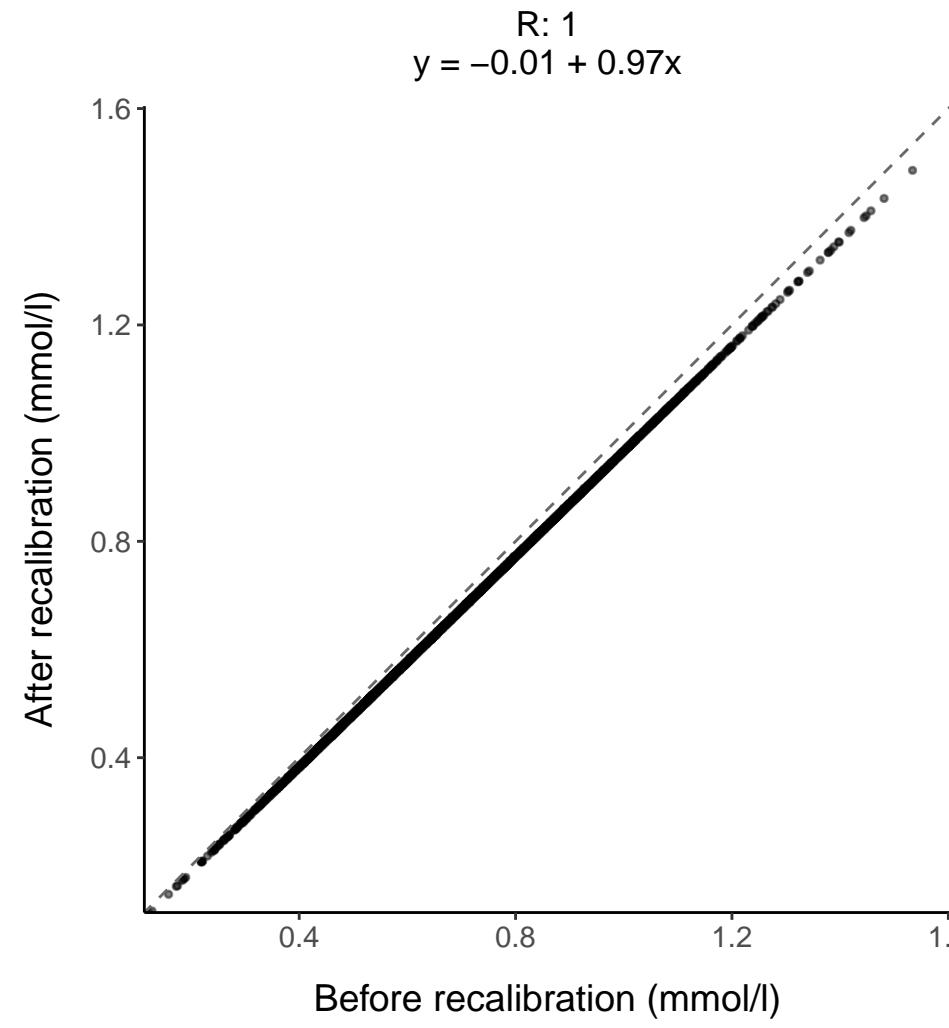


## Medium LDL (average diameter 23 nm)

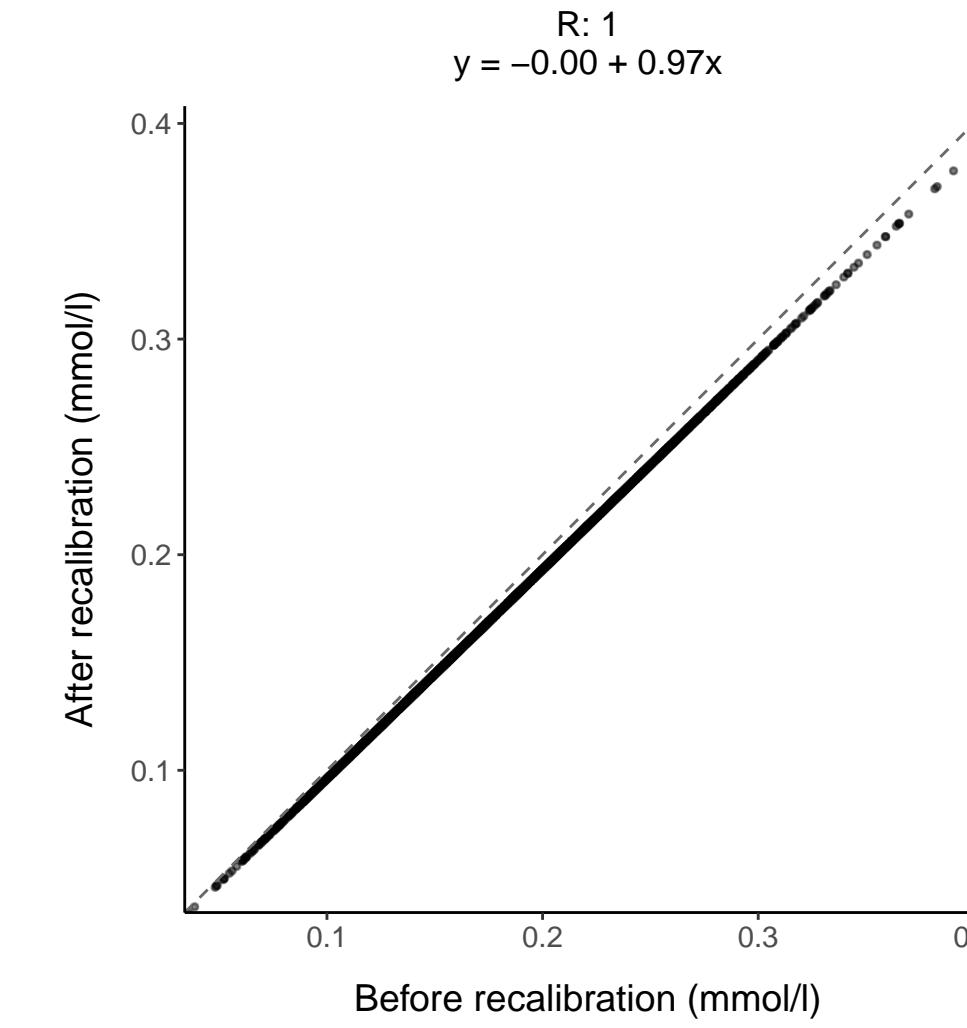
**M\_LDL\_P**



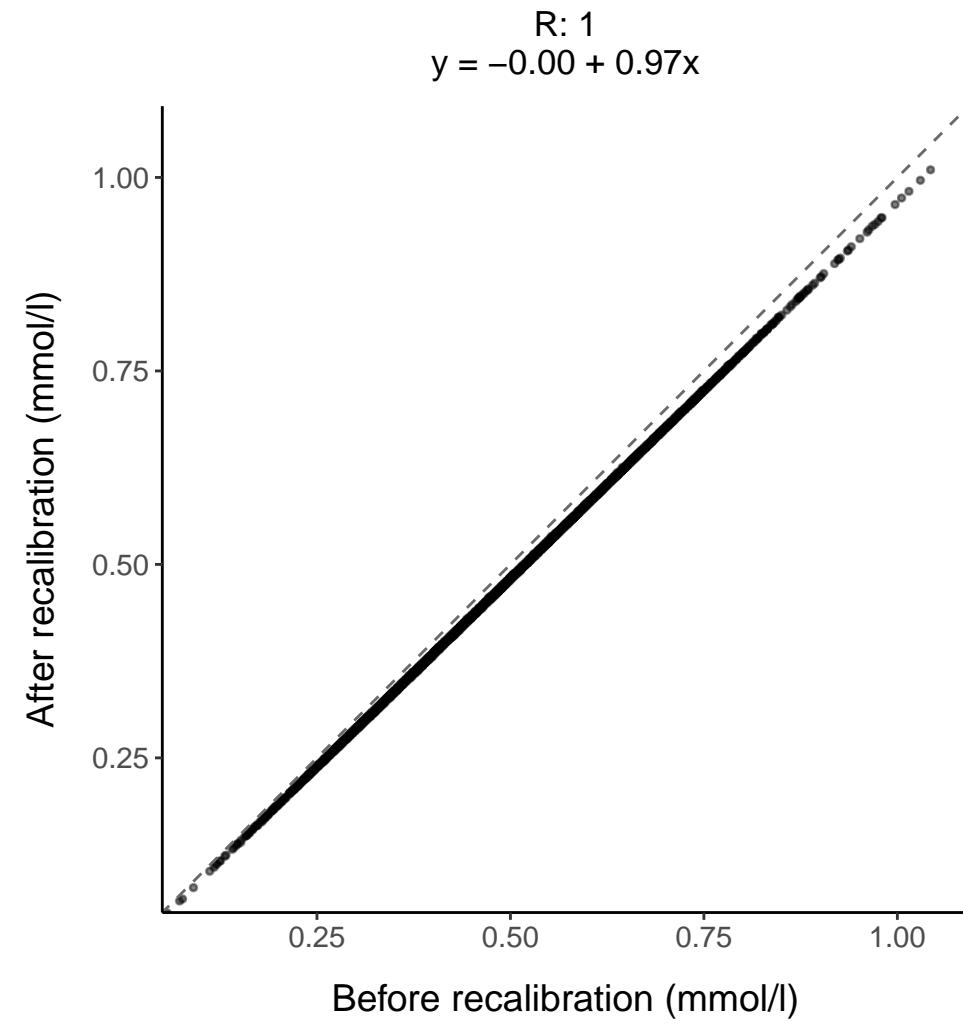
**M\_LDL\_L**



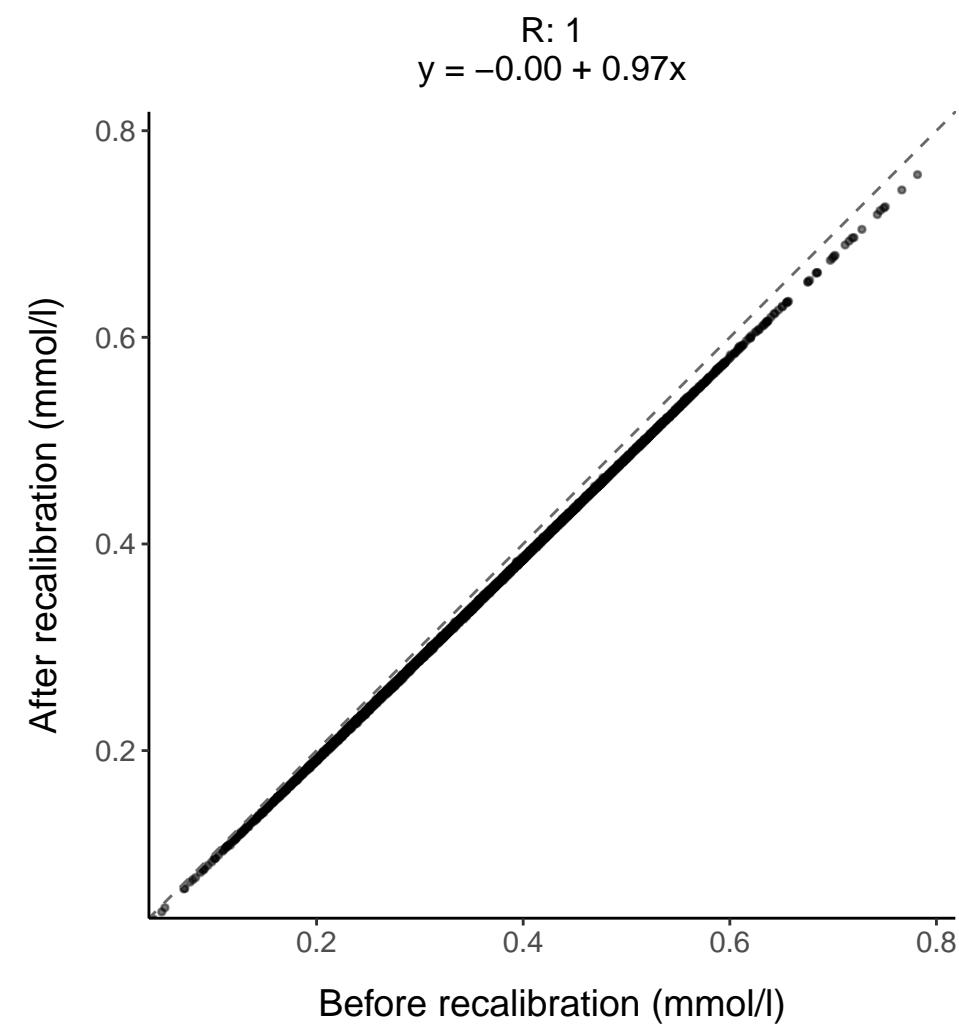
**M\_LDL\_PL**



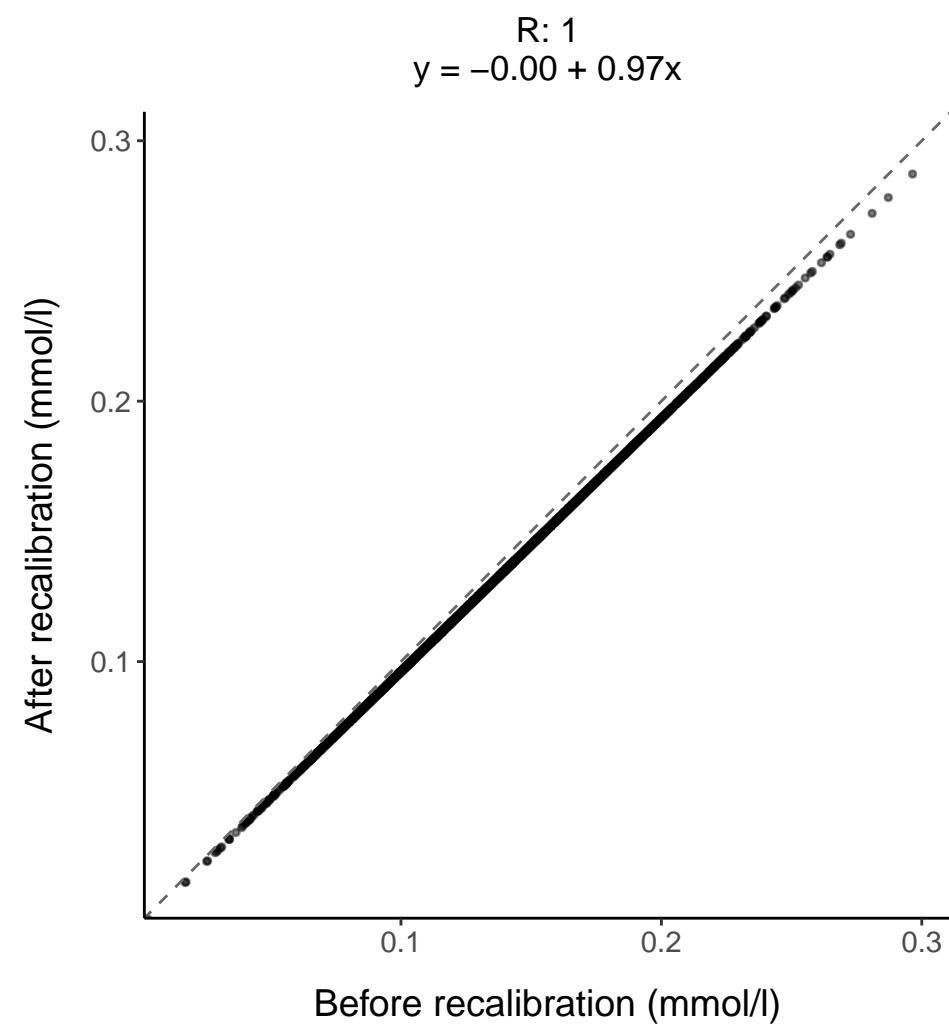
**M\_LDL\_C**



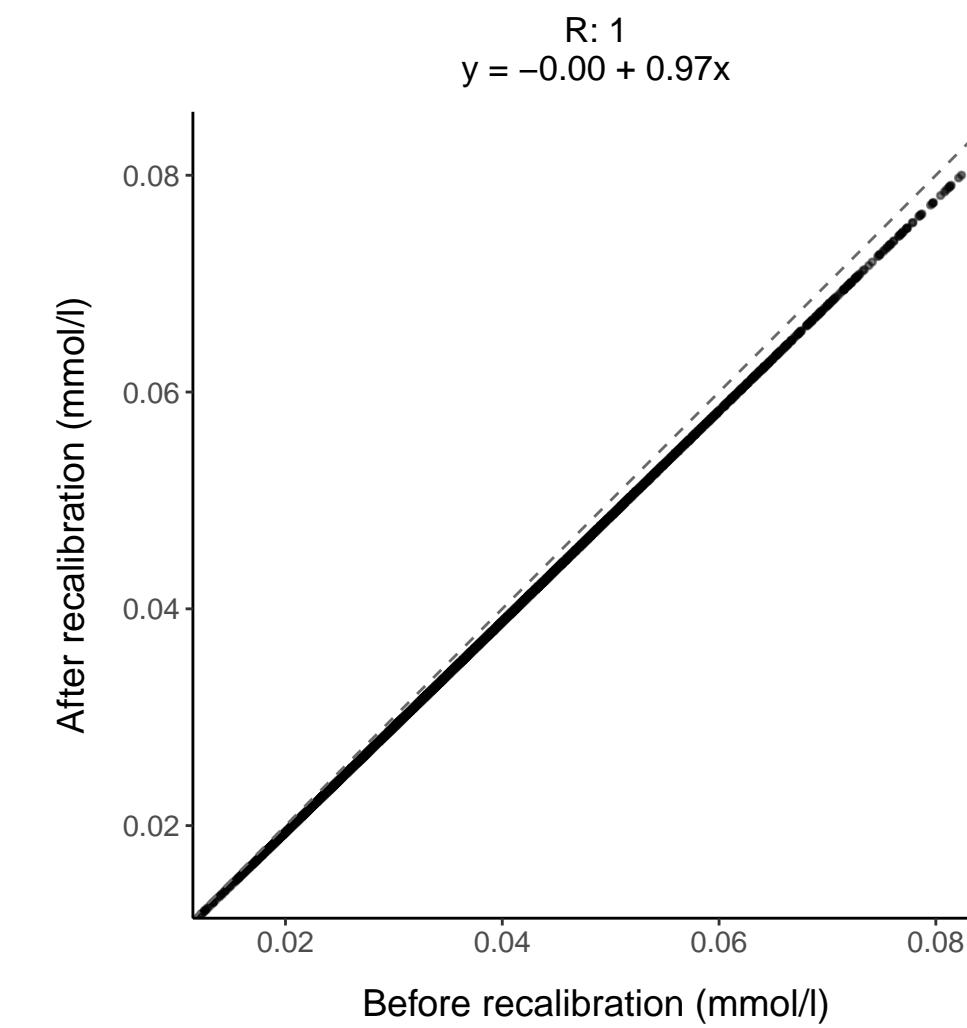
**M\_LDL\_CE**



**M\_LDL\_FC**



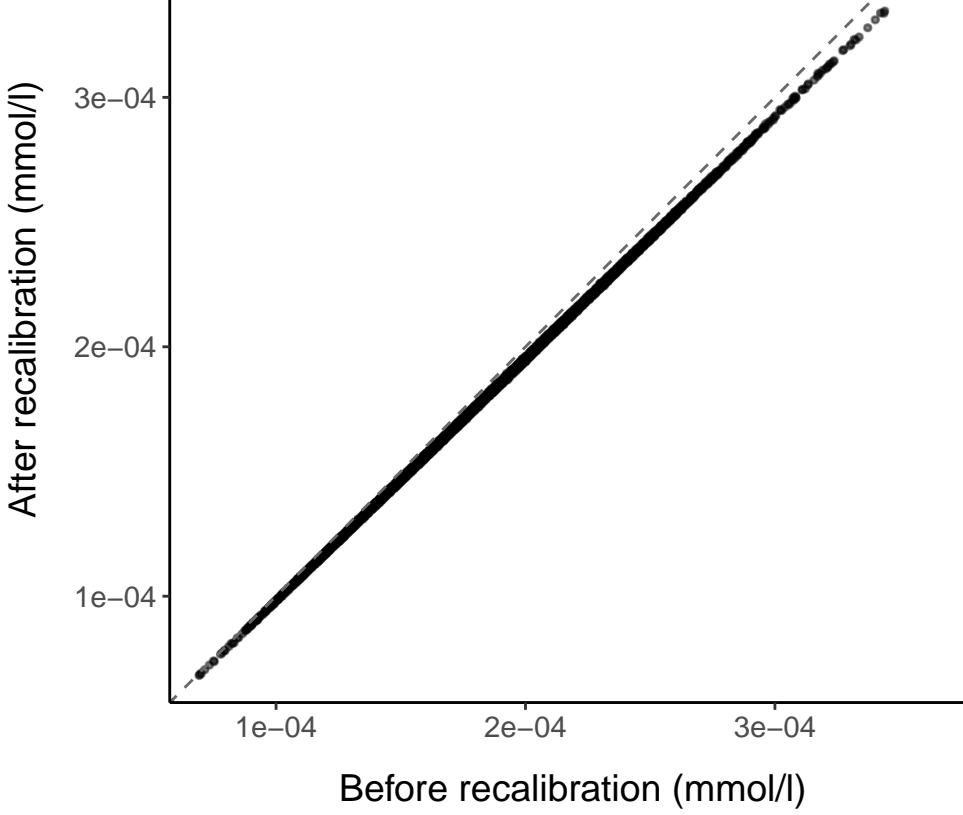
**M\_LDL\_TG**



### Small LDL (average diameter 18.7 nm)

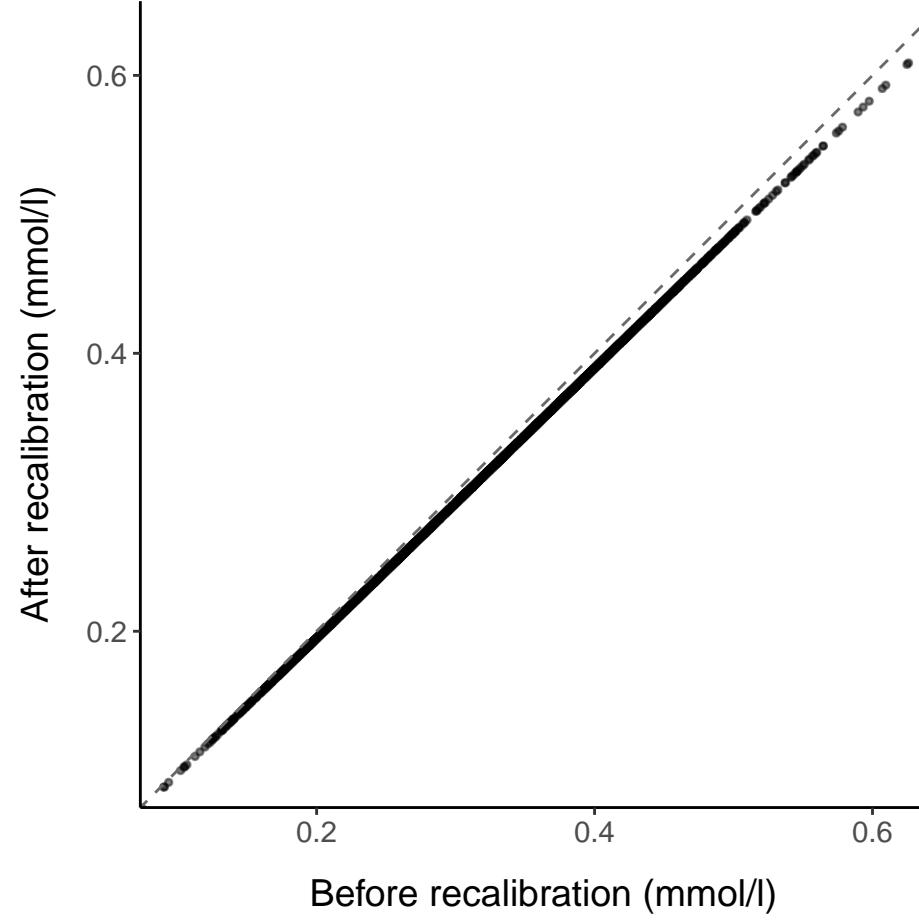
**S\_LDL\_P**

R: 1  
 $y = 0.00 + 0.97x$



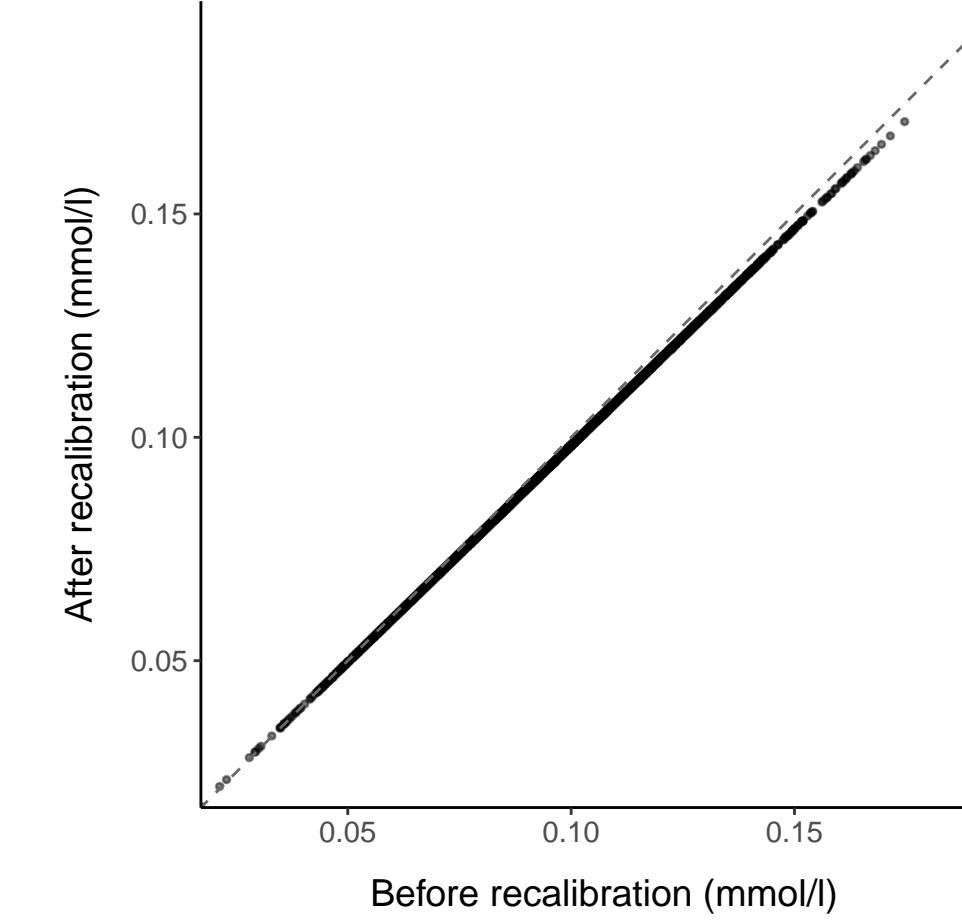
**S\_LDL\_L**

R: 1  
 $y = 0.00 + 0.97x$



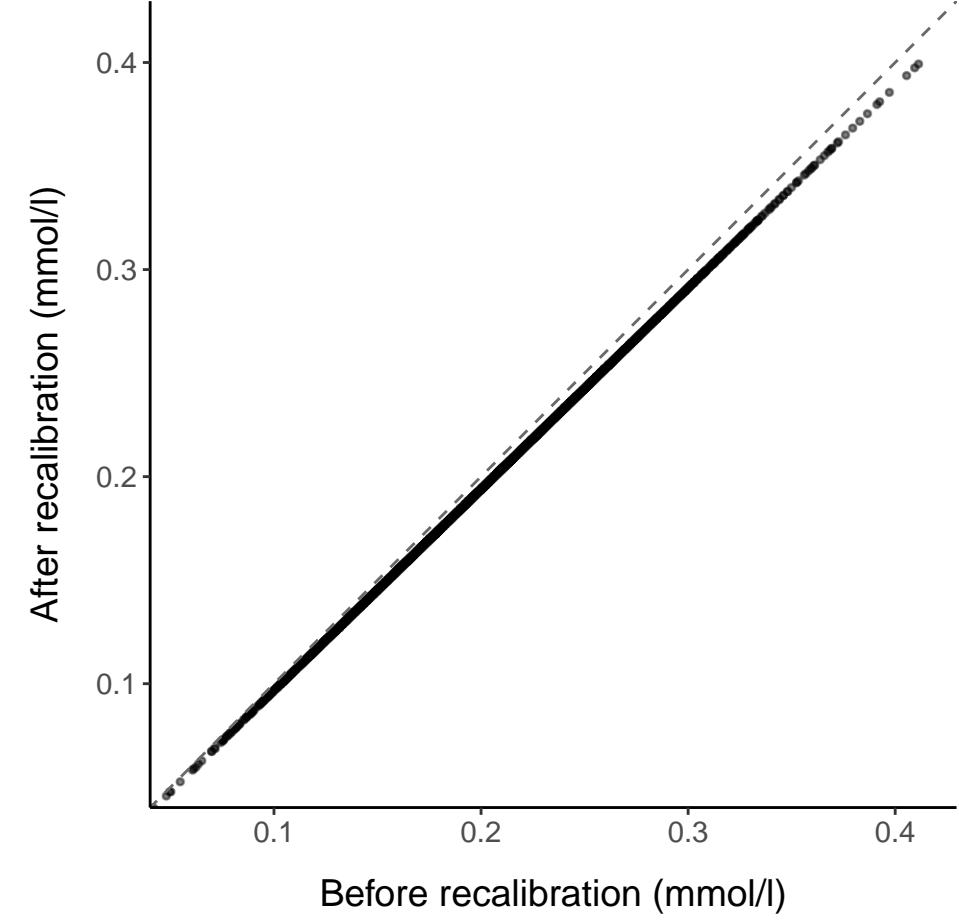
**S\_LDL\_PL**

R: 1  
 $y = 0.00 + 0.97x$



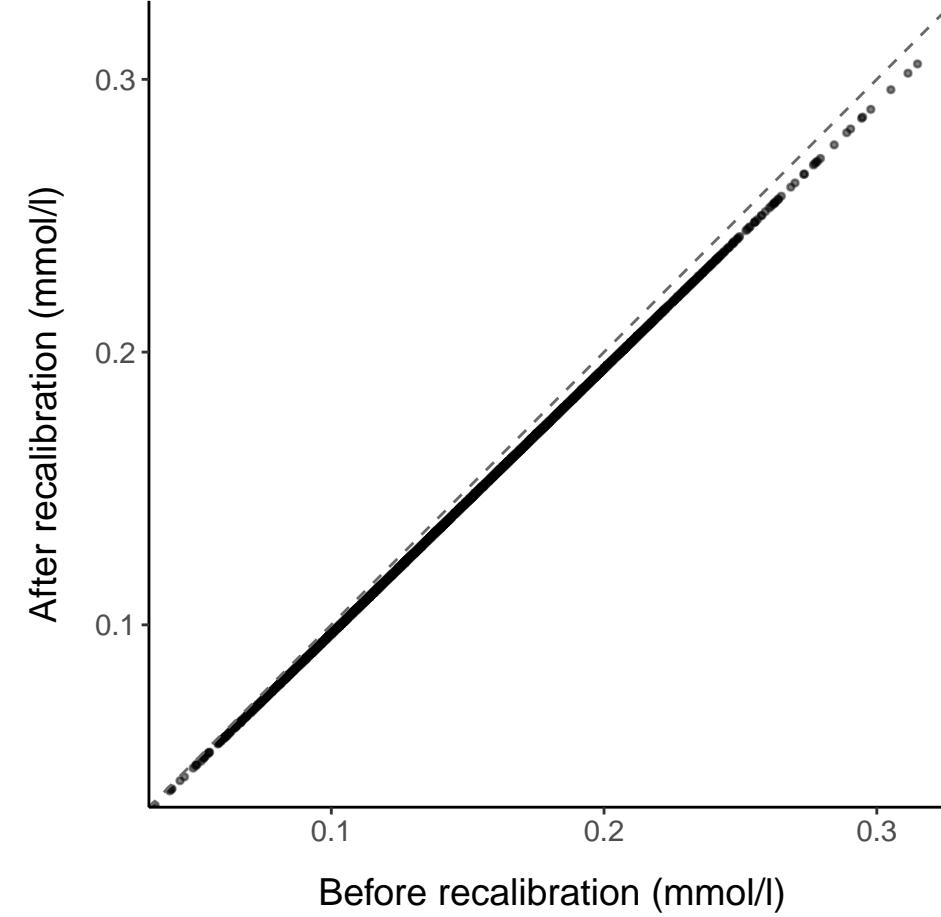
**S\_LDL\_C**

R: 1  
 $y = -0.00 + 0.97x$



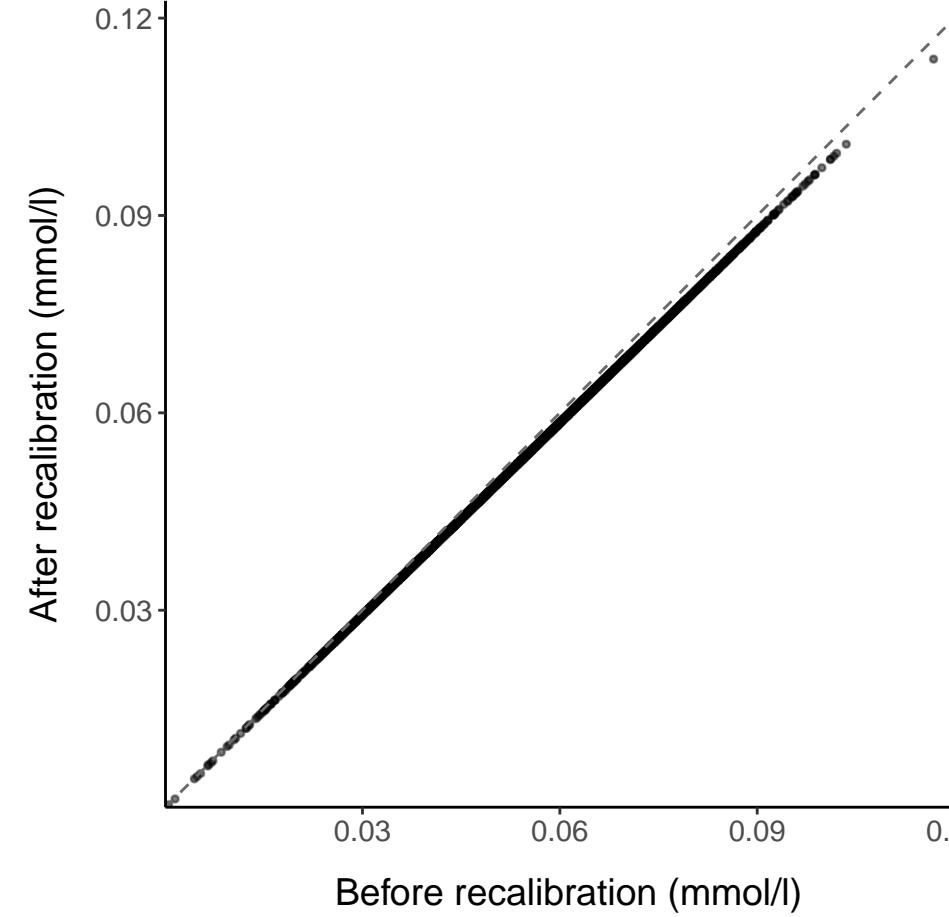
**S\_LDL\_CE**

R: 1  
 $y = -0.00 + 0.97x$



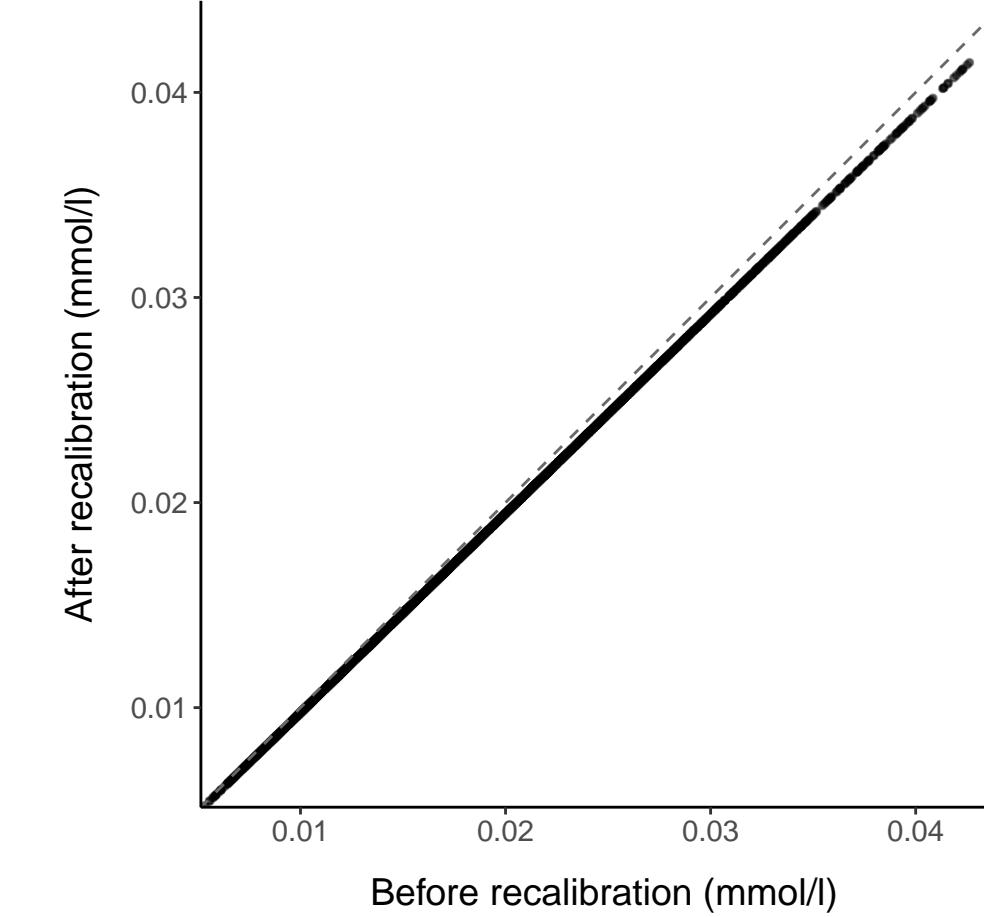
**S\_LDL\_FC**

R: 1  
 $y = 0.00 + 0.97x$



**S\_LDL\_TG**

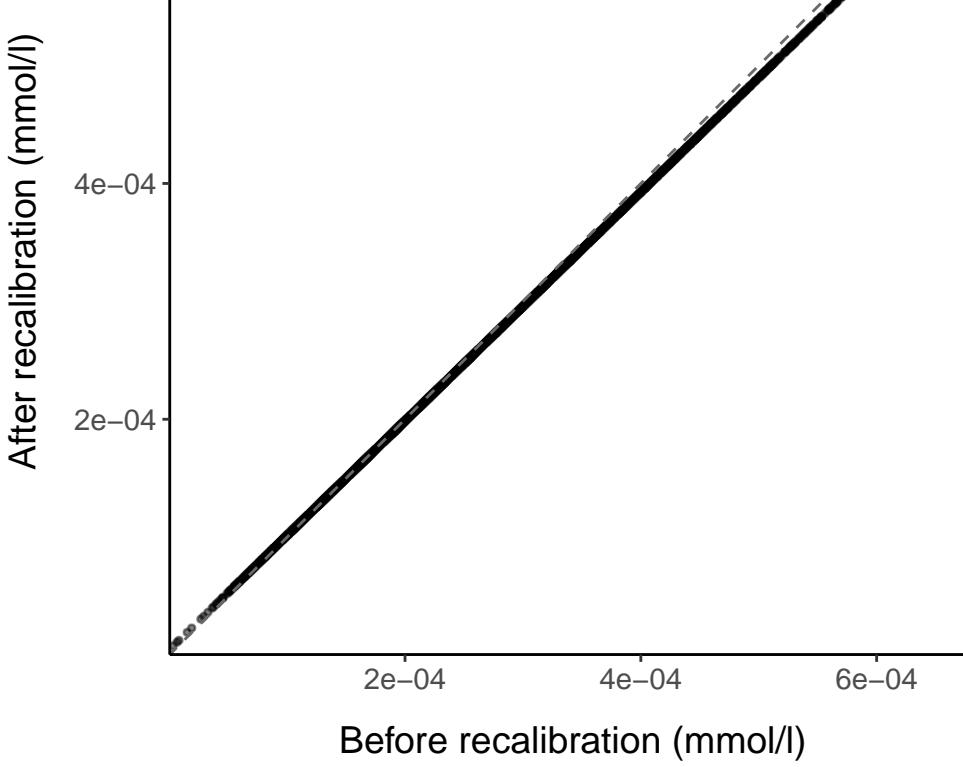
R: 1  
 $y = 0.00 + 0.97x$



## Very large HDL (average diameter 14.3 nm)

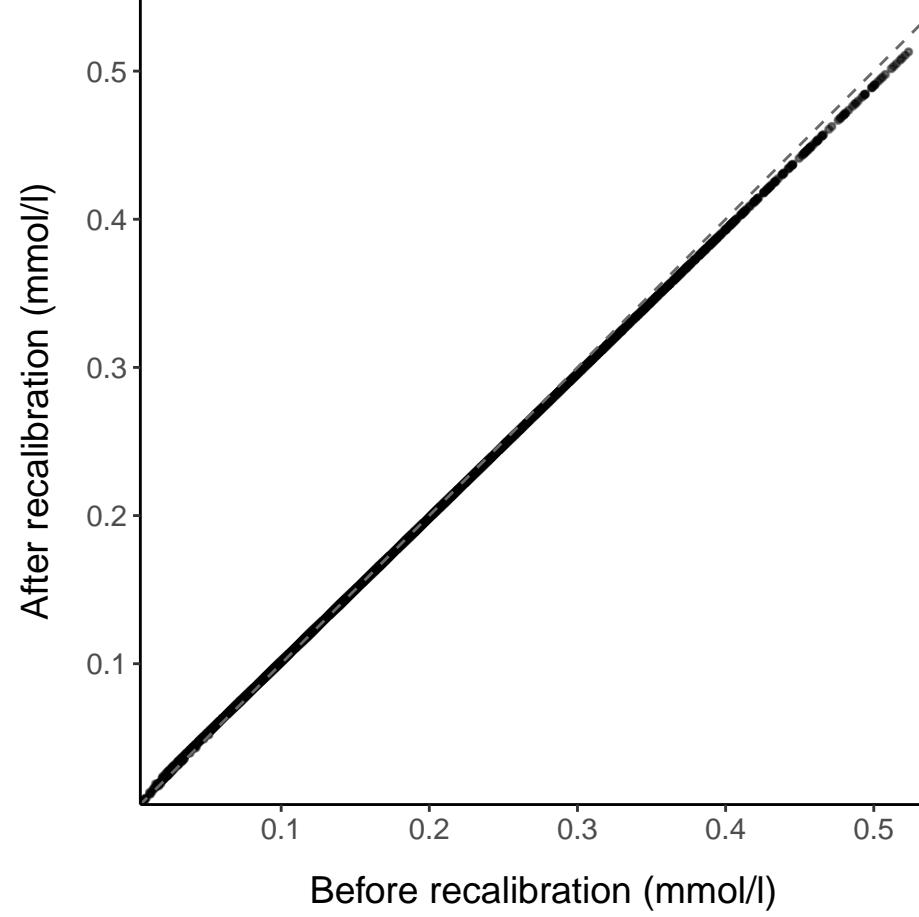
**XL\_HDL\_P**

R: 1  
 $y = 0.00 + 0.97x$



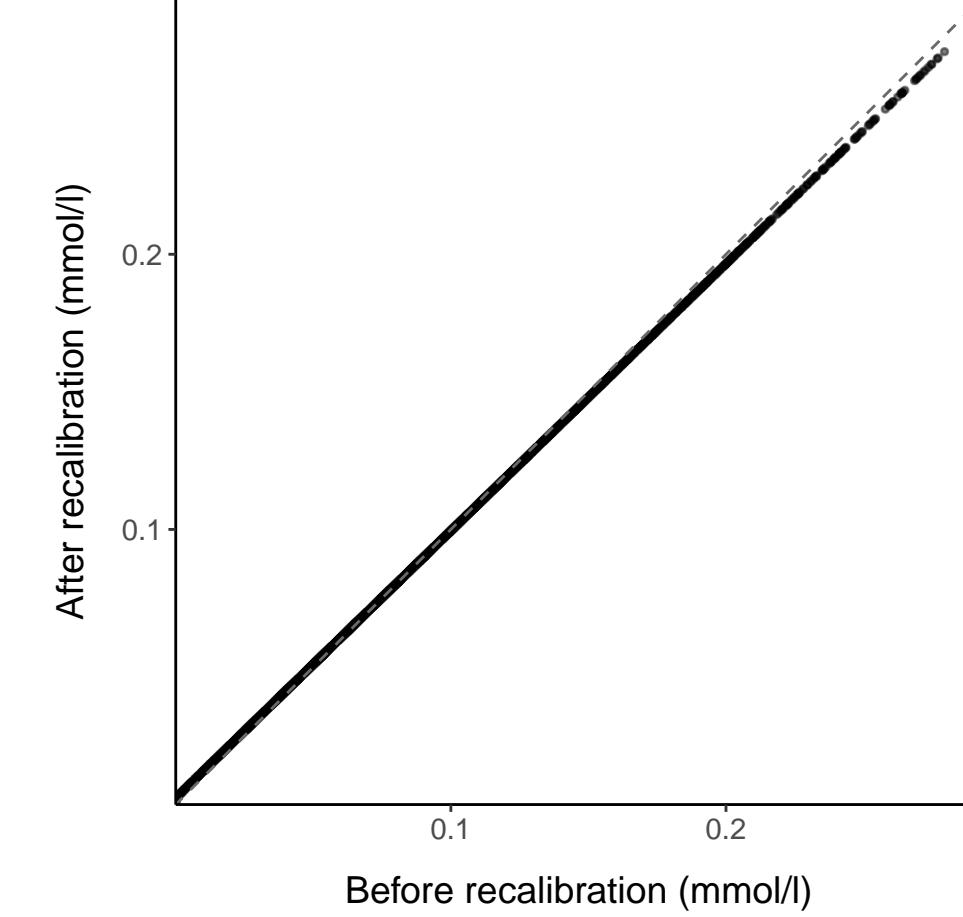
**XL\_HDL\_L**

R: 1  
 $y = 0.00 + 0.97x$



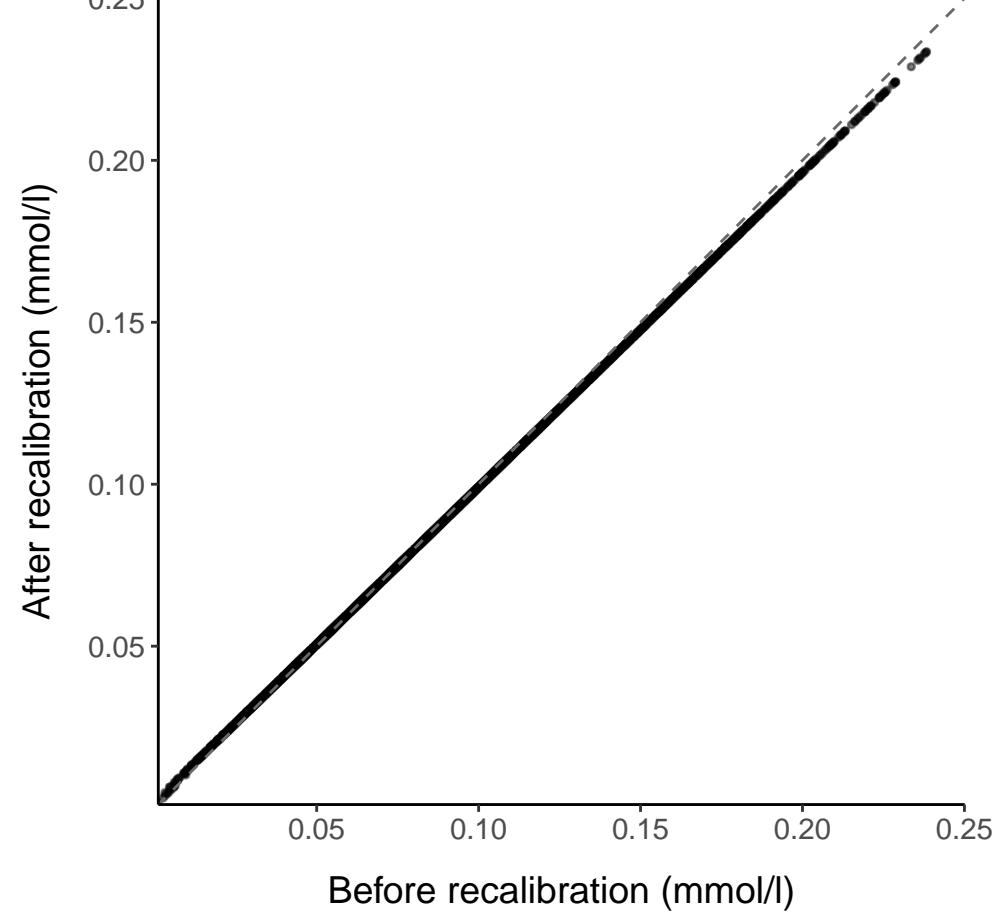
**XL\_HDL\_PL**

R: 1  
 $y = 0.00 + 0.97x$



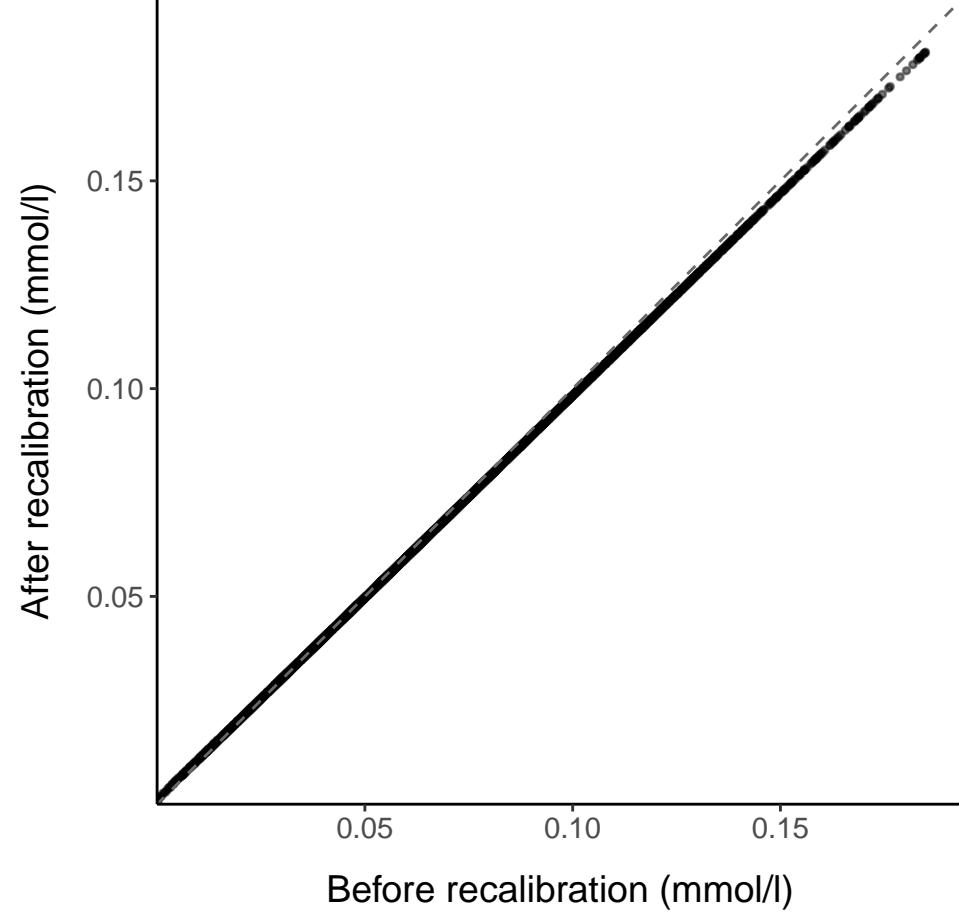
**XL\_HDL\_C**

R: 1  
 $y = 0.00 + 0.97x$



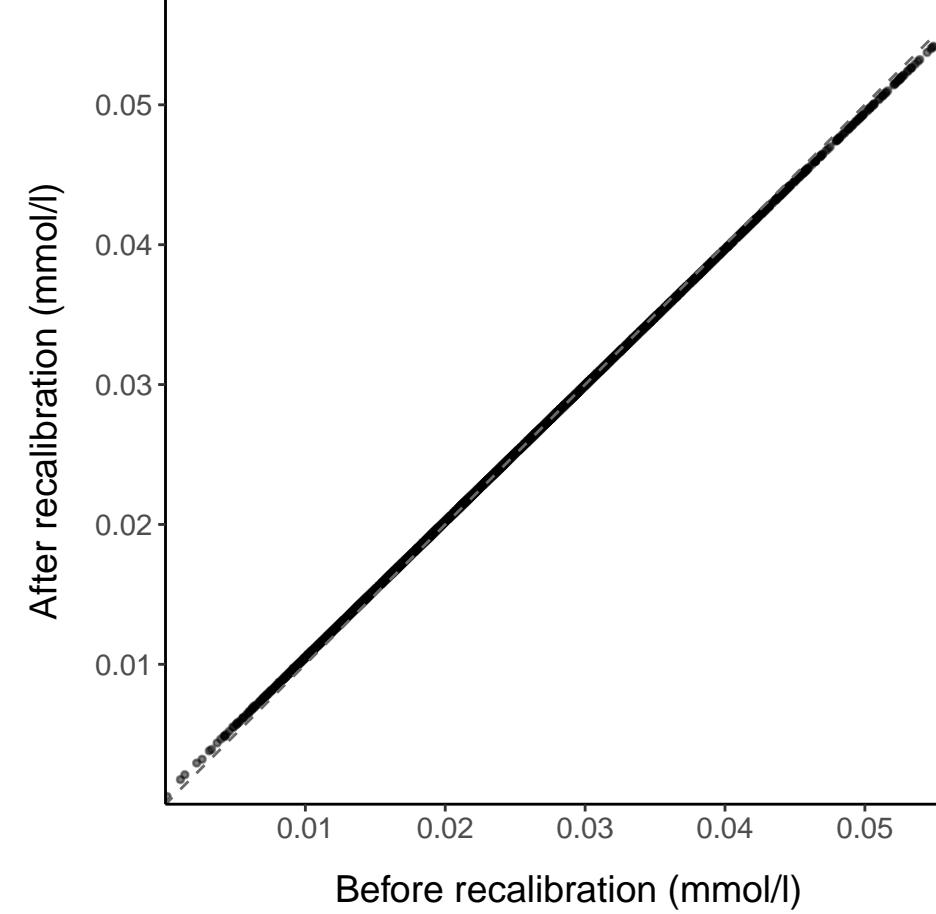
**XL\_HDL\_CE**

R: 1  
 $y = 0.00 + 0.97x$



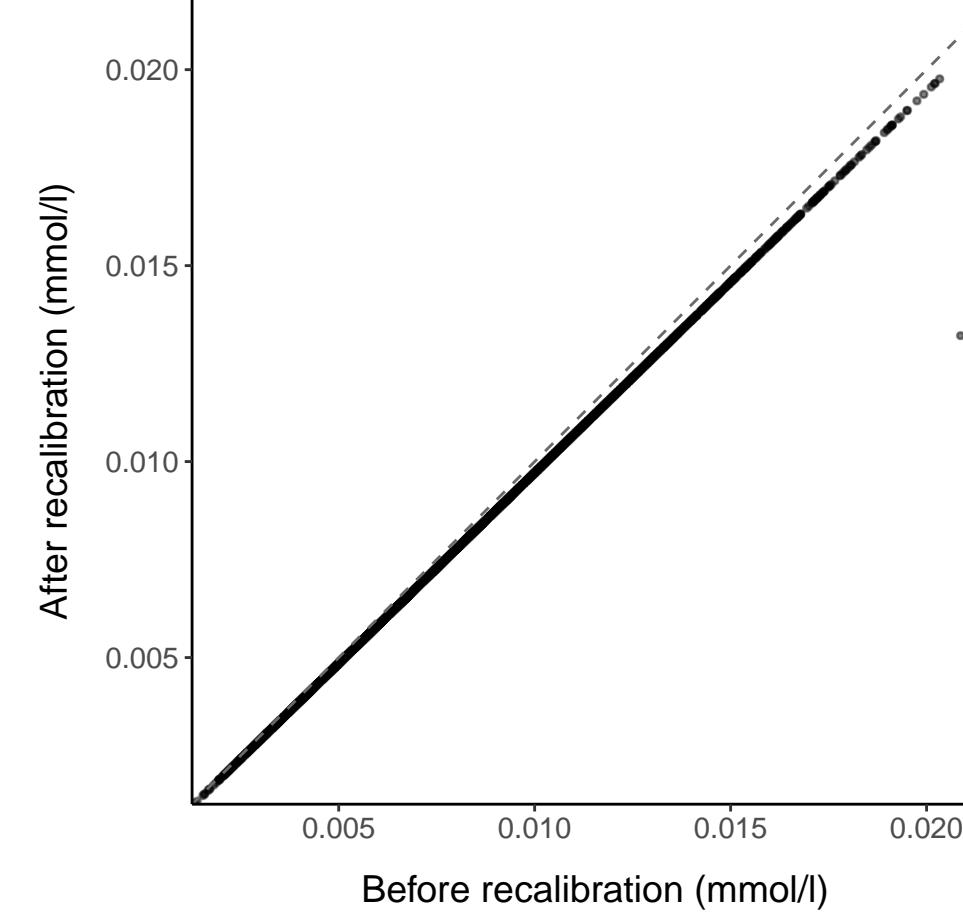
**XL\_HDL\_FC**

R: 1  
 $y = 0.00 + 0.97x$



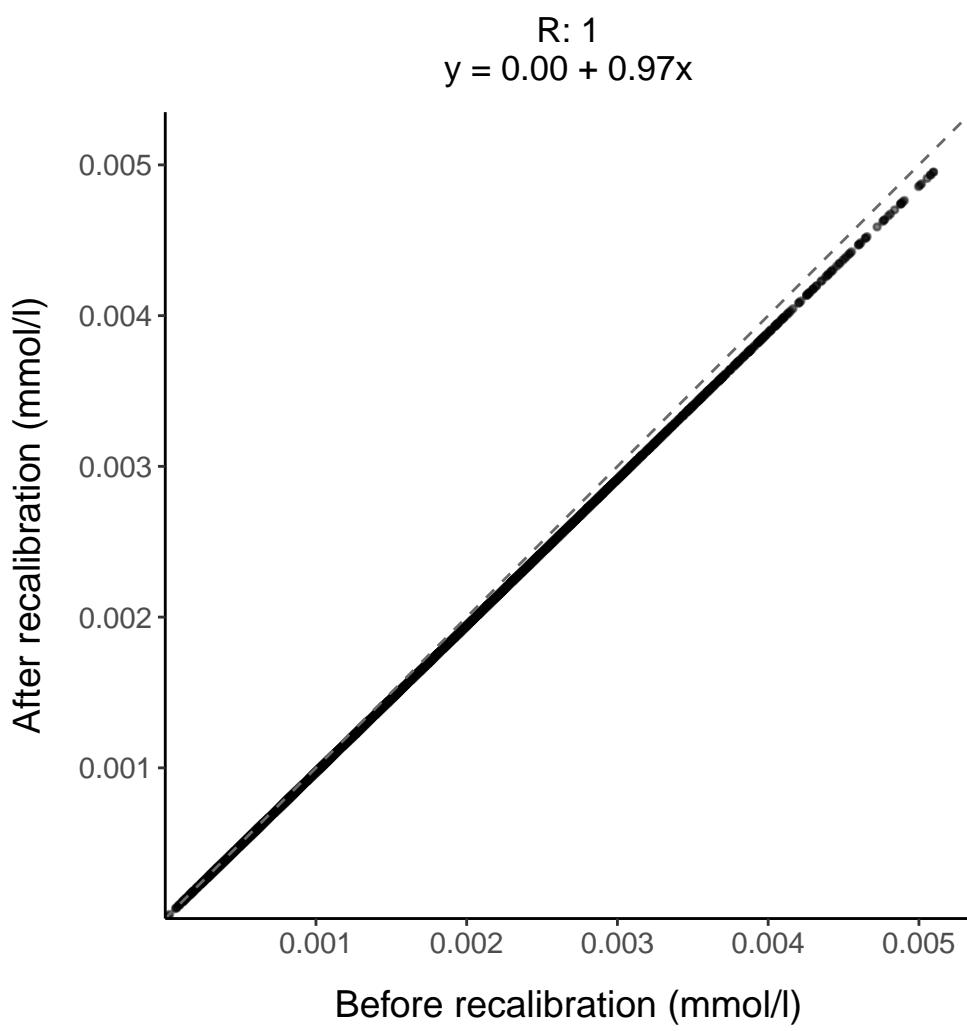
**XL\_HDL\_TG**

R: 1  
 $y = 0.00 + 0.97x$

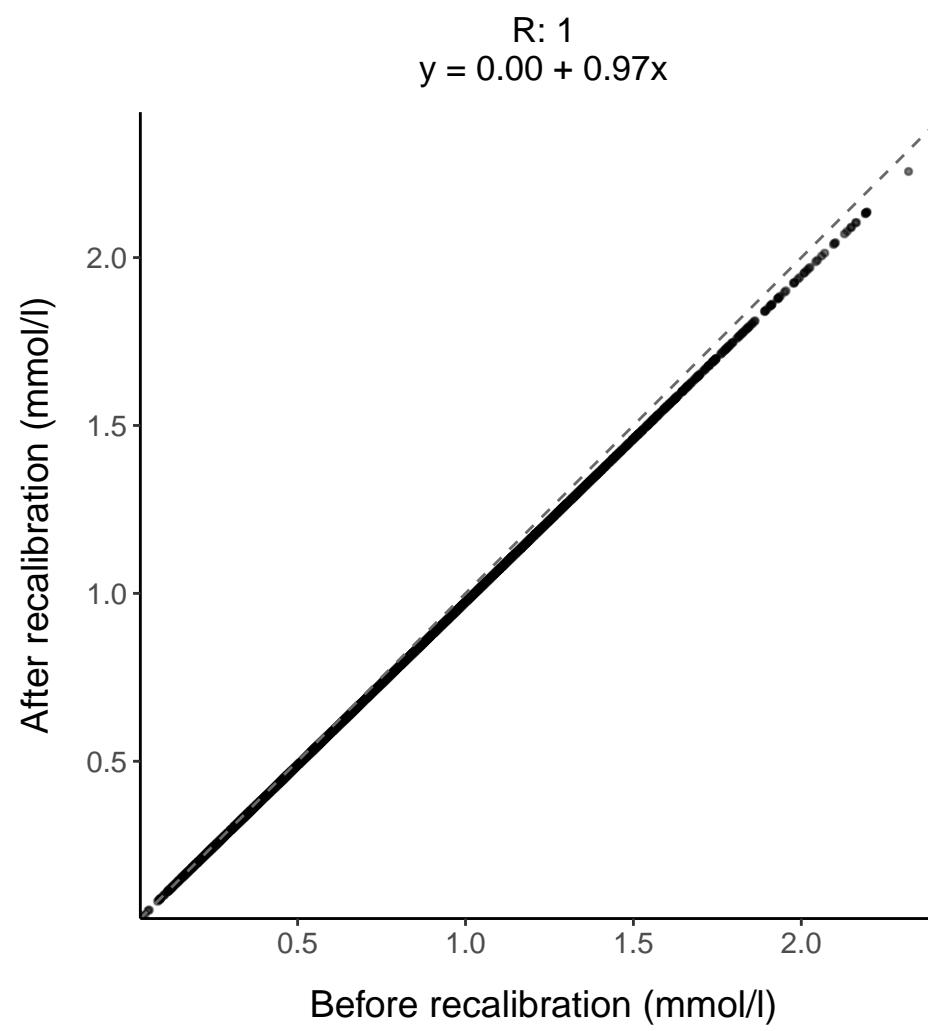


## Large HDL (average diameter 12.1 nm)

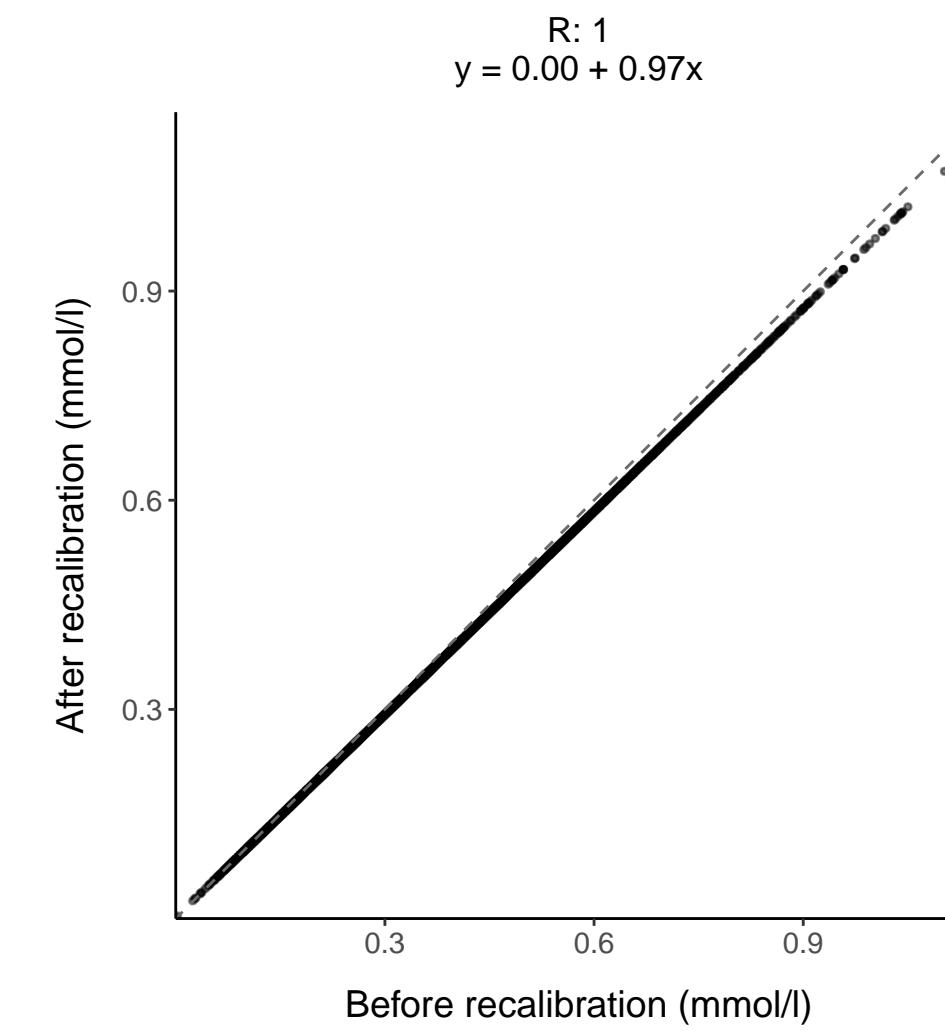
L\_HDL\_P



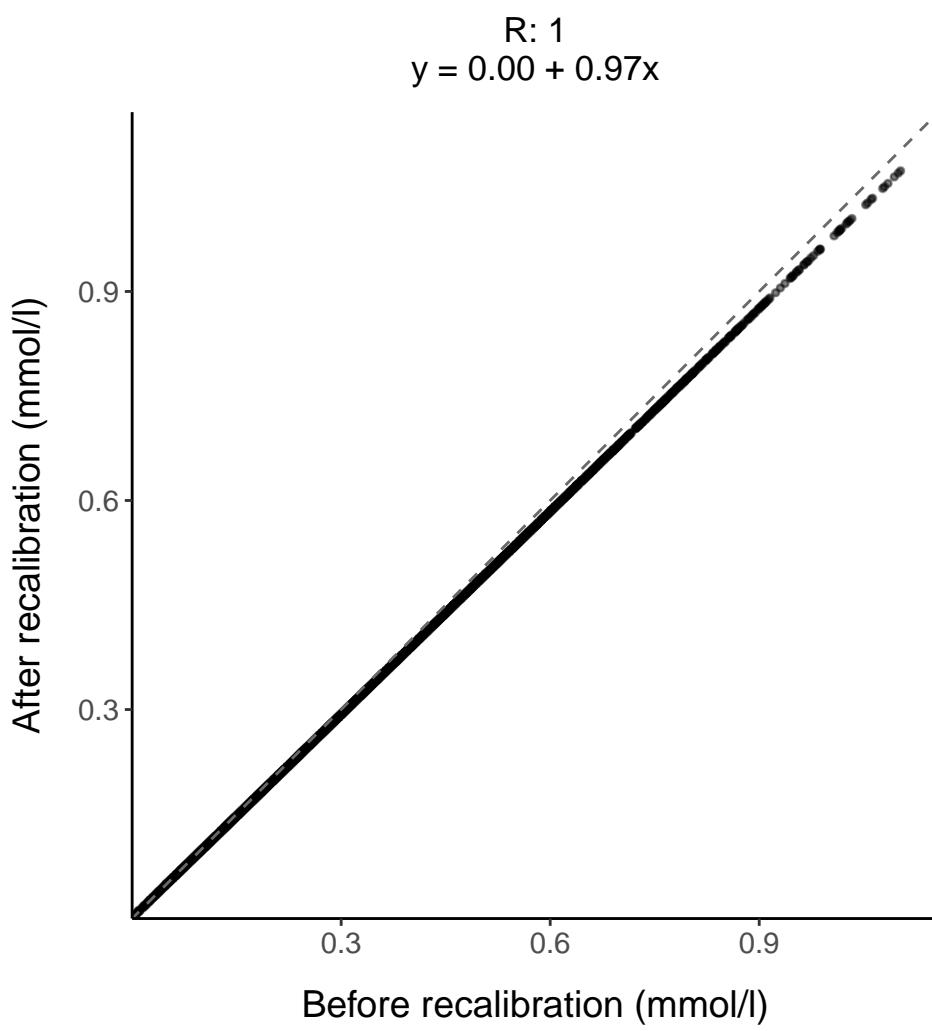
L\_HDL\_L



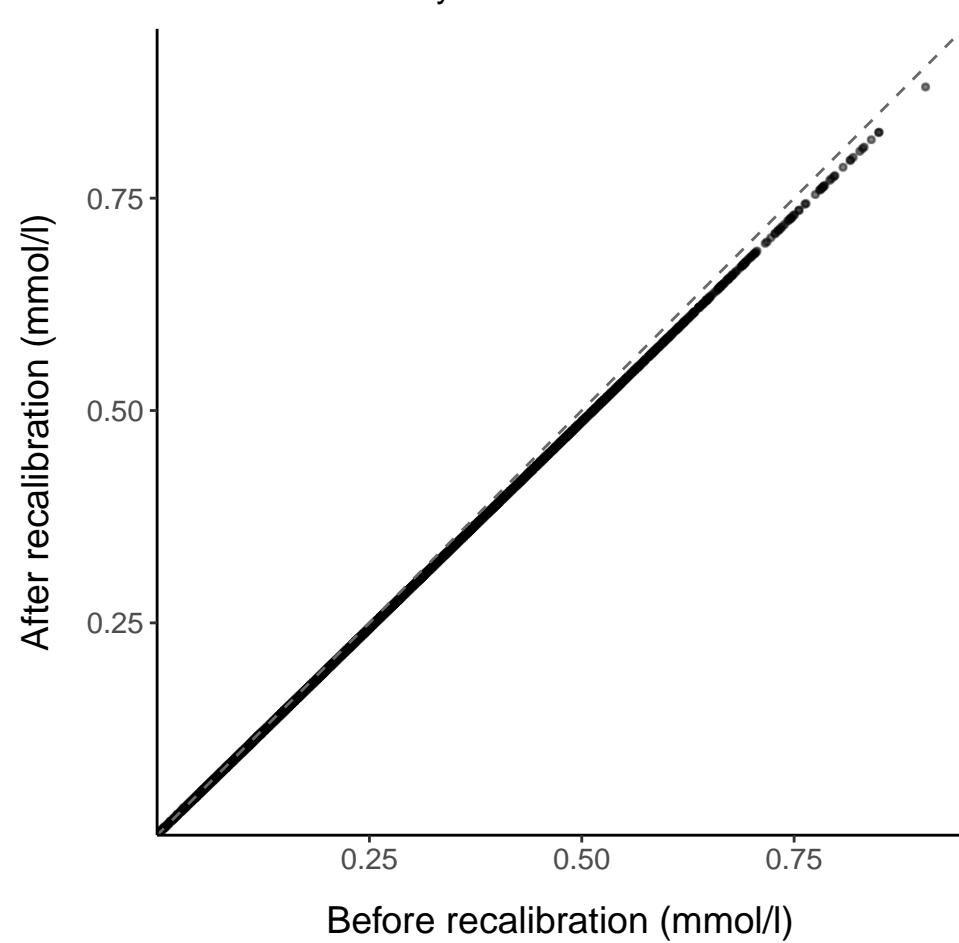
L\_HDL\_PL



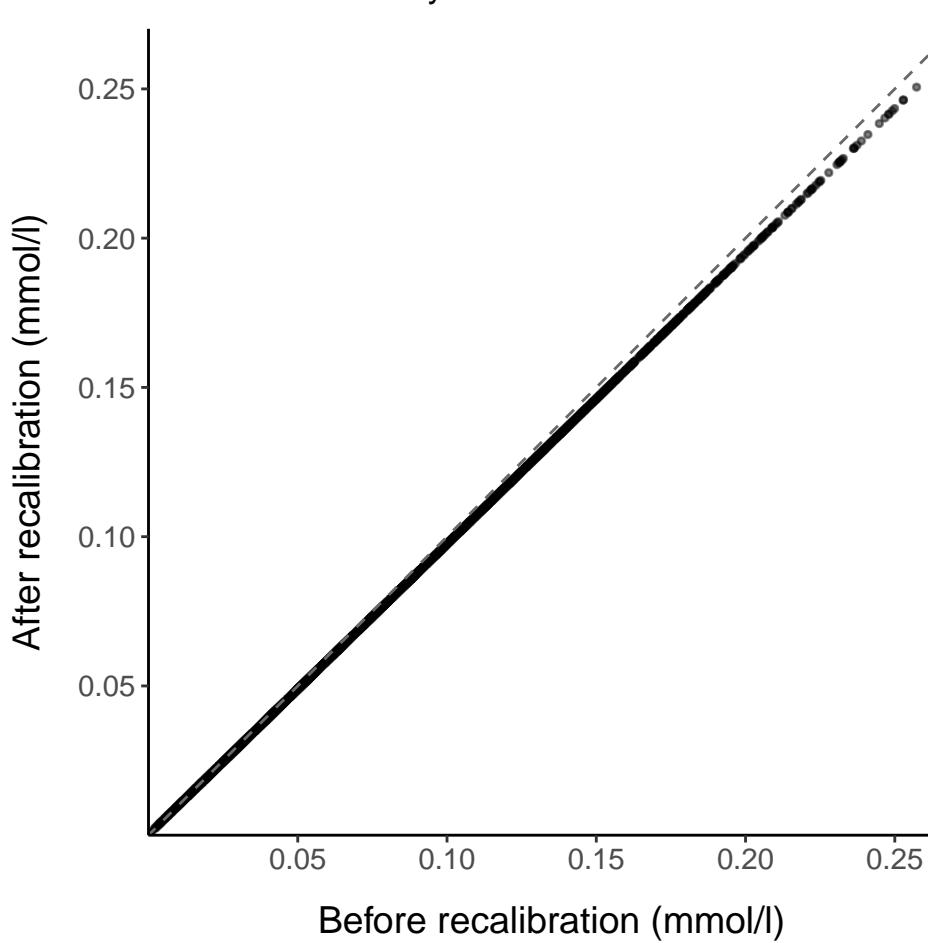
L\_HDL\_C



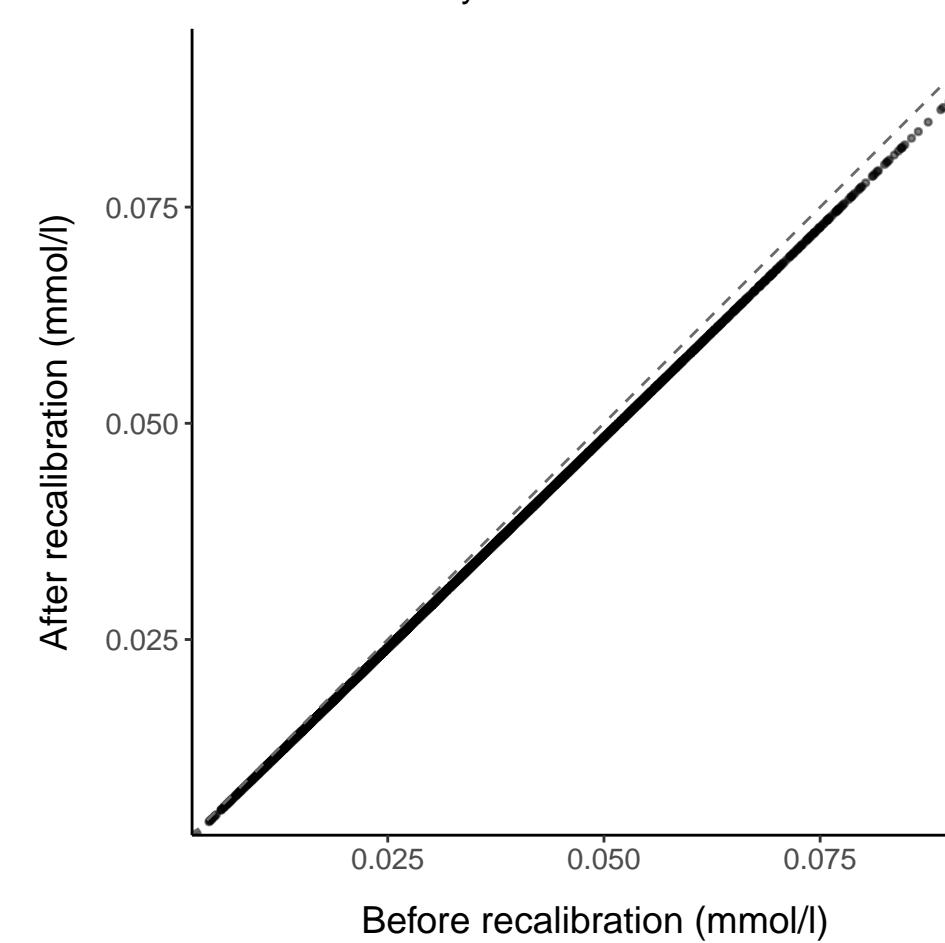
L\_HDL\_CE



L\_HDL\_FC

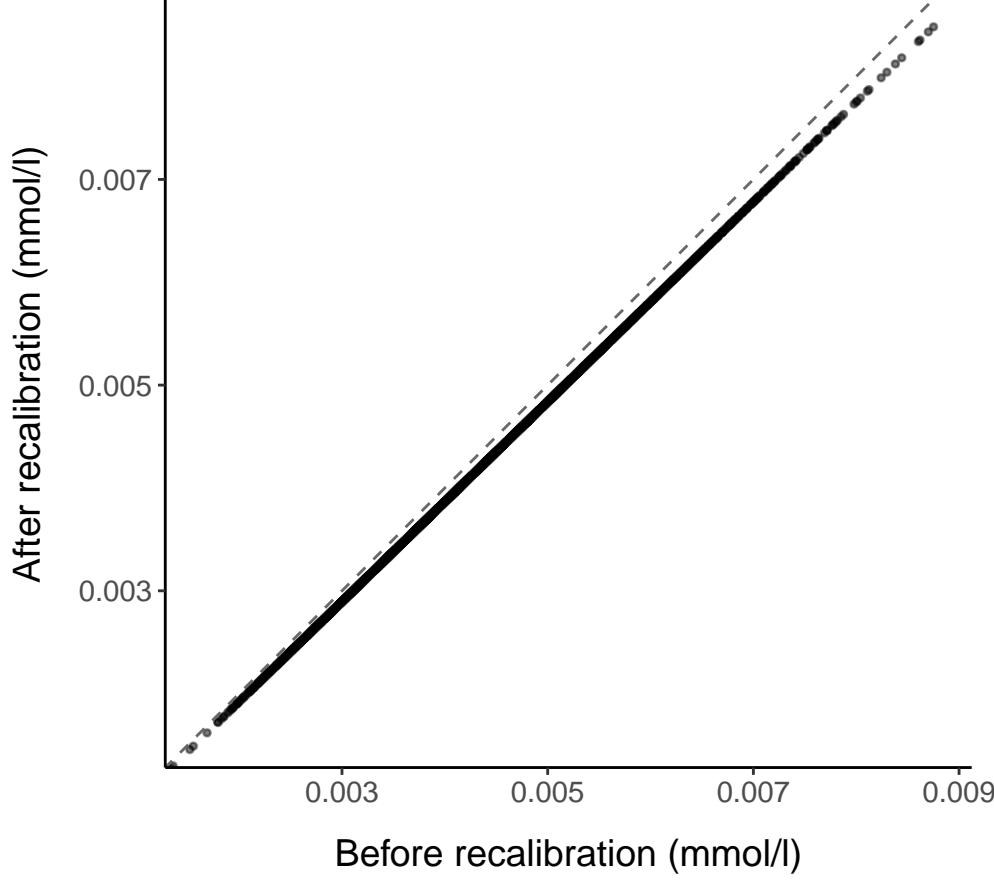


L\_HDL\_TG

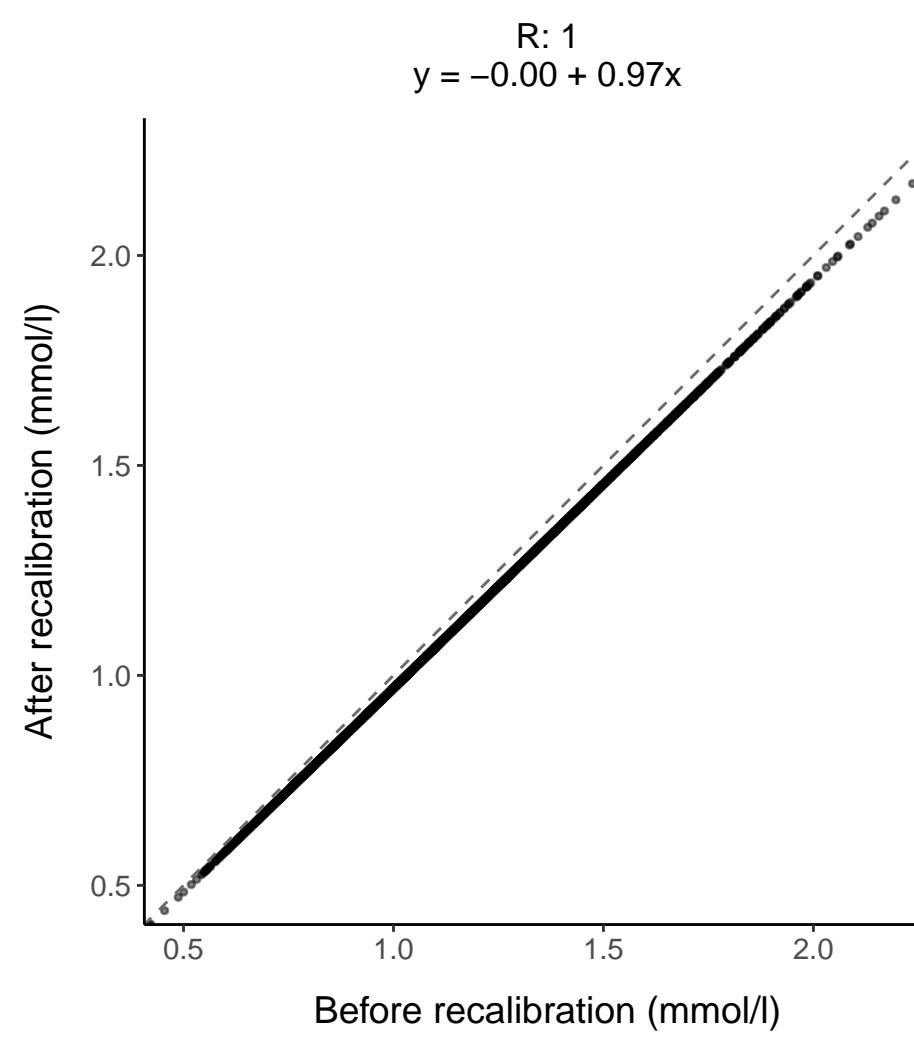


## Medium HDL (average diameter 10.9 nm)

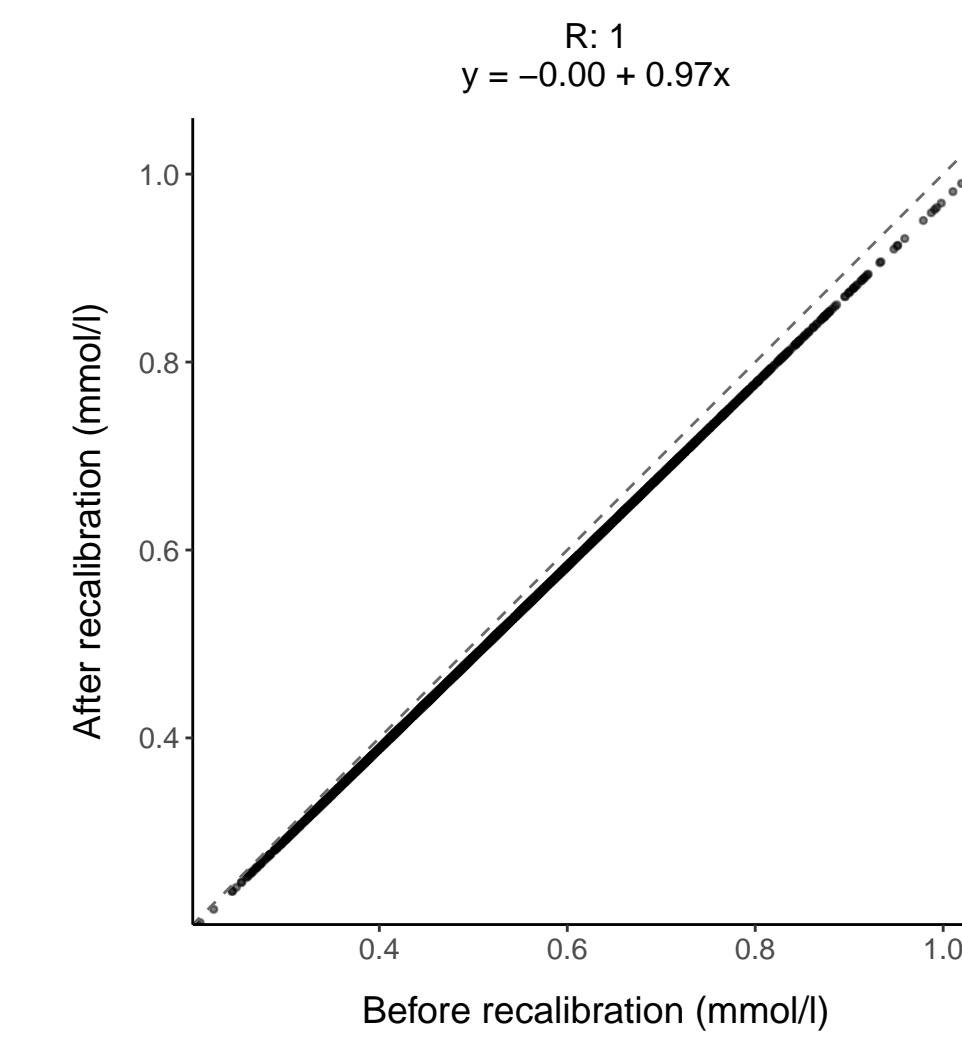
**M\_HDL\_P**



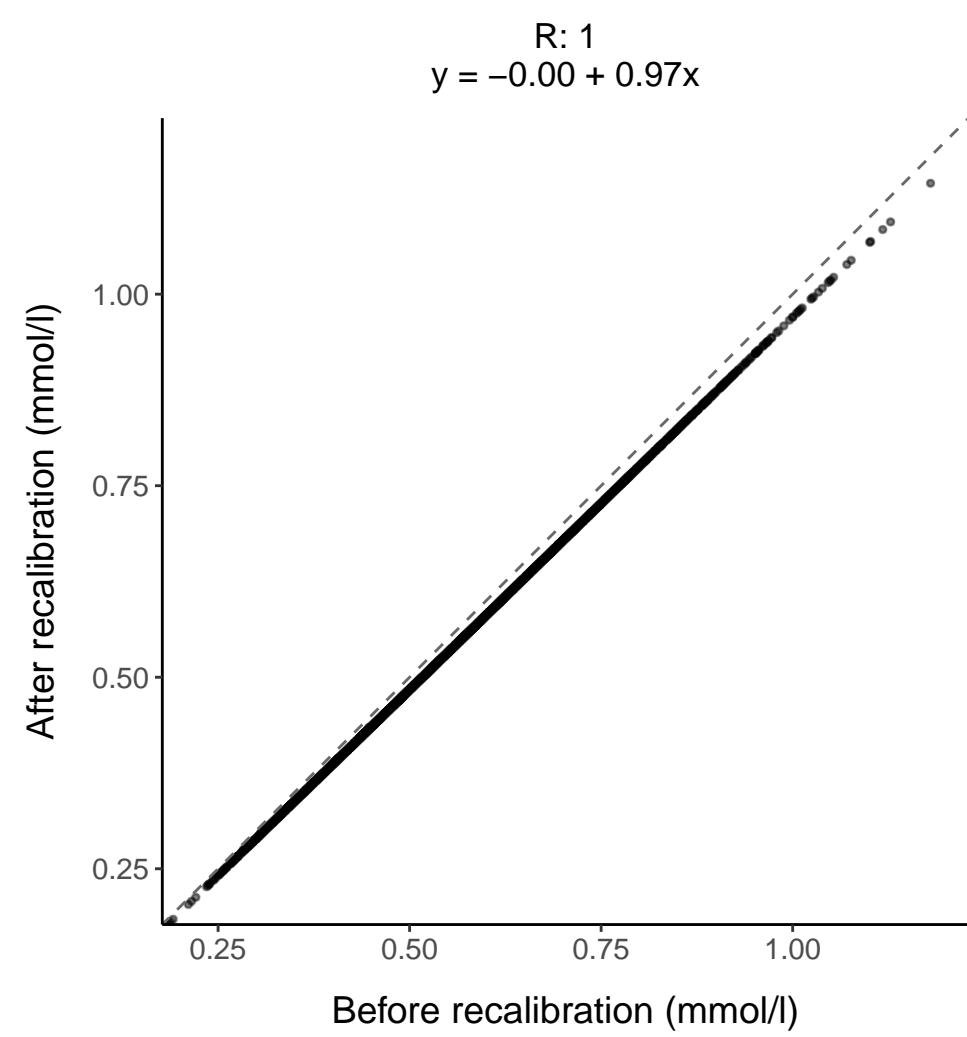
**M\_HDL\_L**



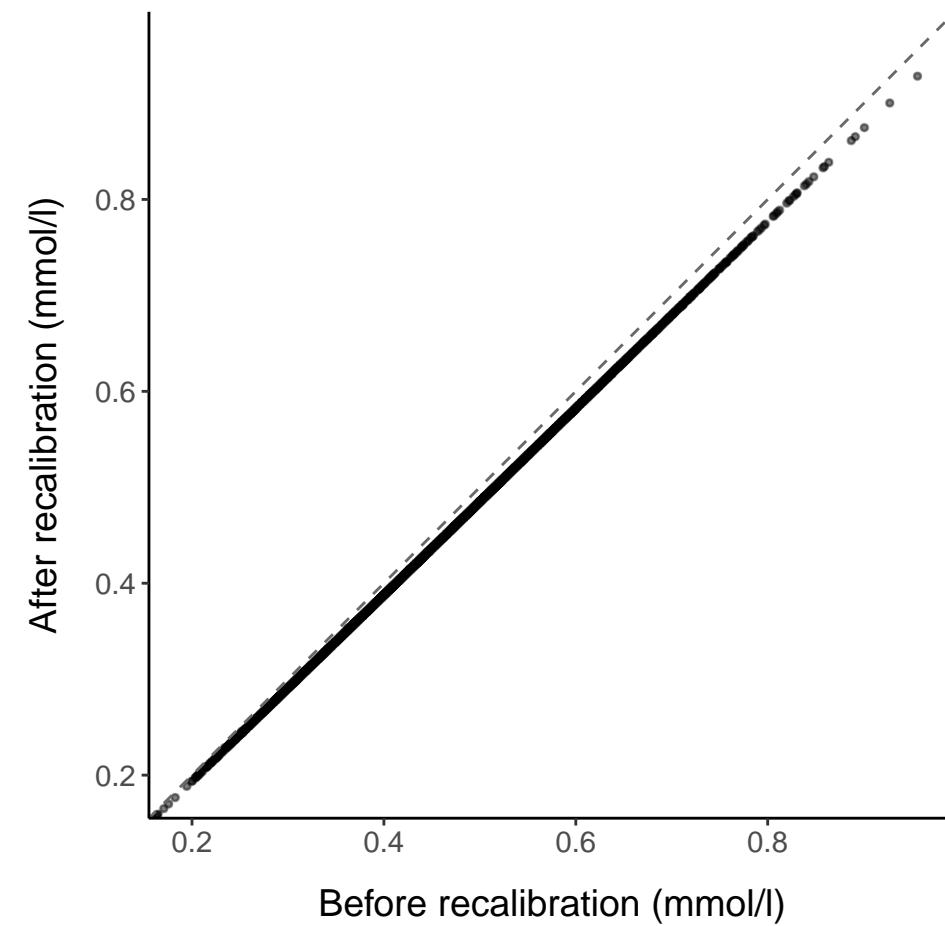
**M\_HDL\_PL**



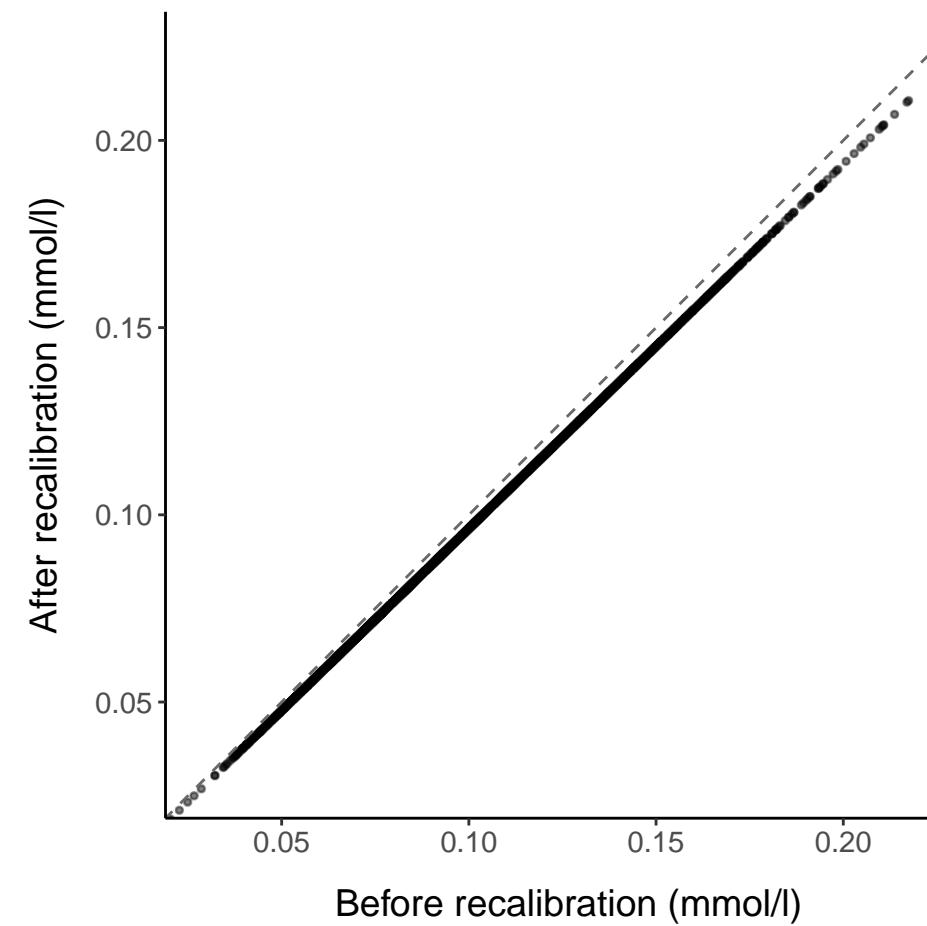
**M\_HDL\_C**



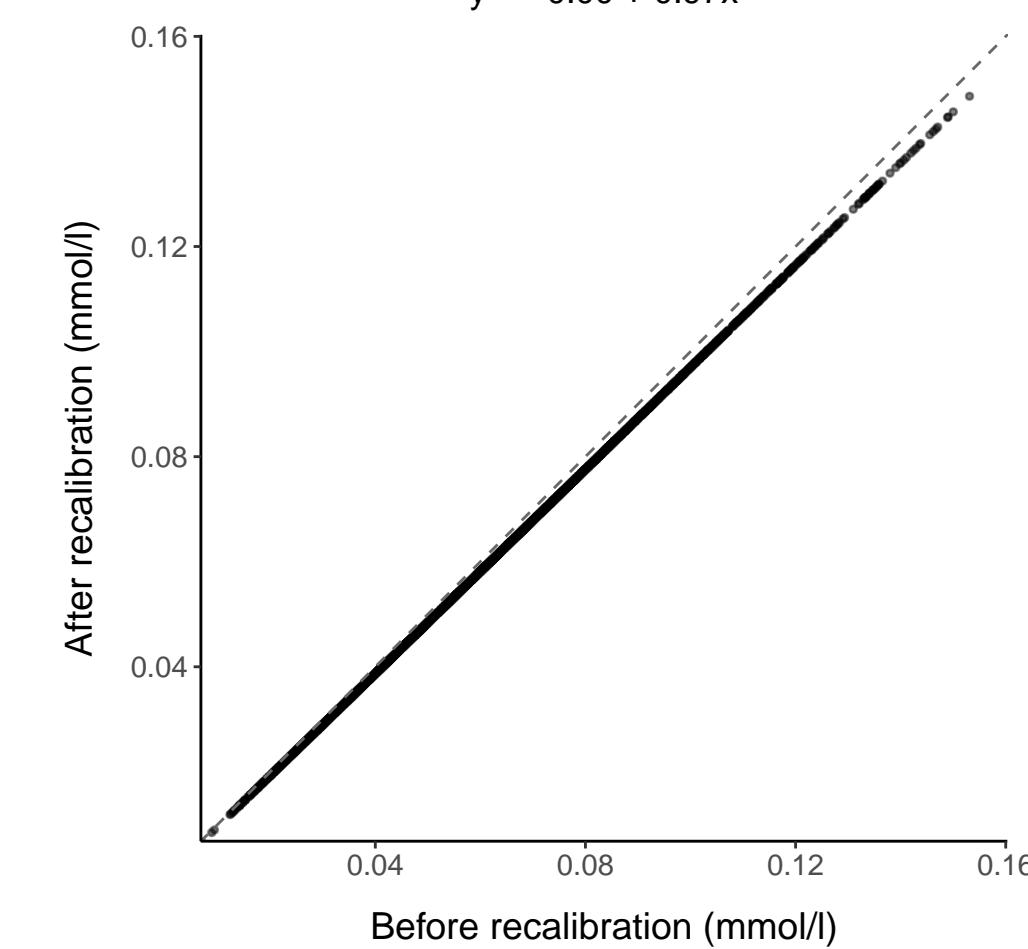
**M\_HDL\_CE**



**M\_HDL\_FC**



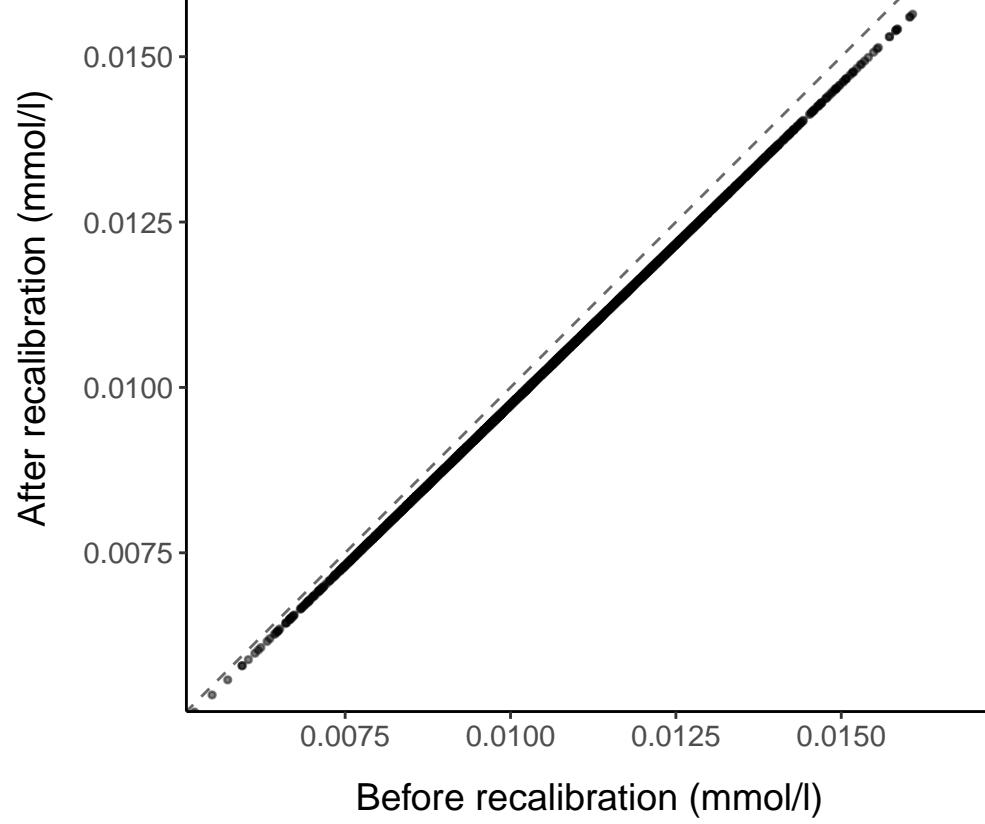
**M\_HDL\_TG**



### Small HDL (average diameter 8.7 nm)

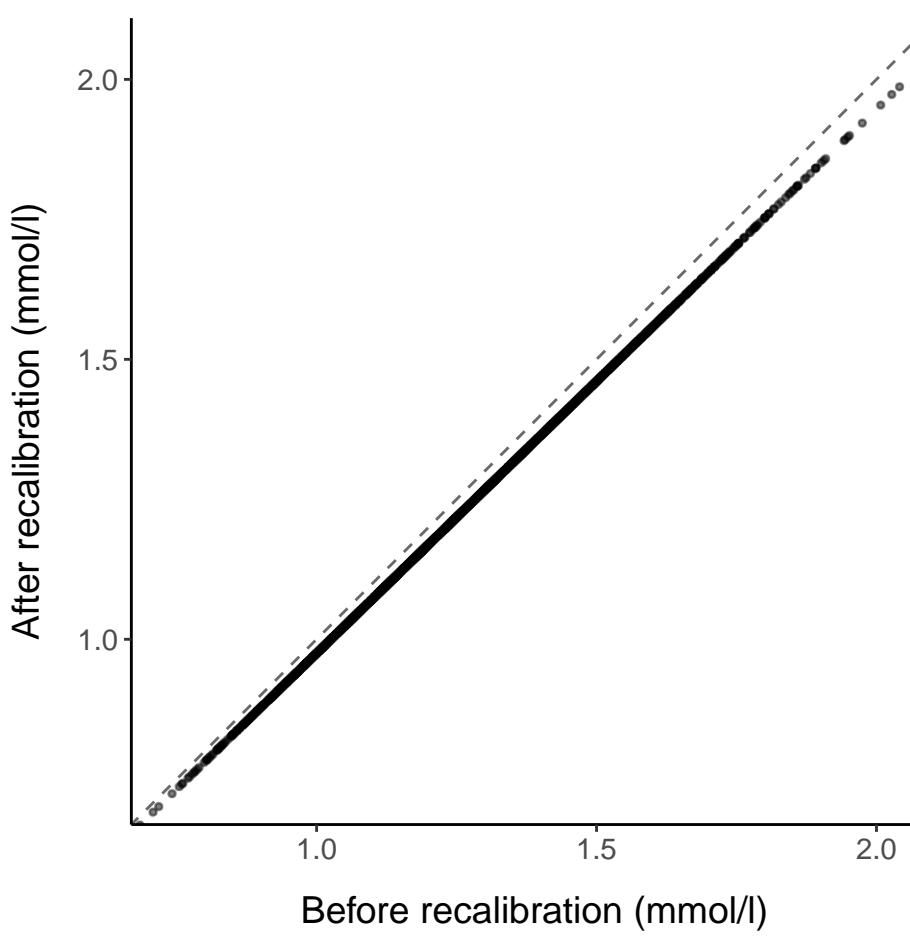
**S\_HDL\_P**

R: 1  
 $y = 0.00 + 0.97x$



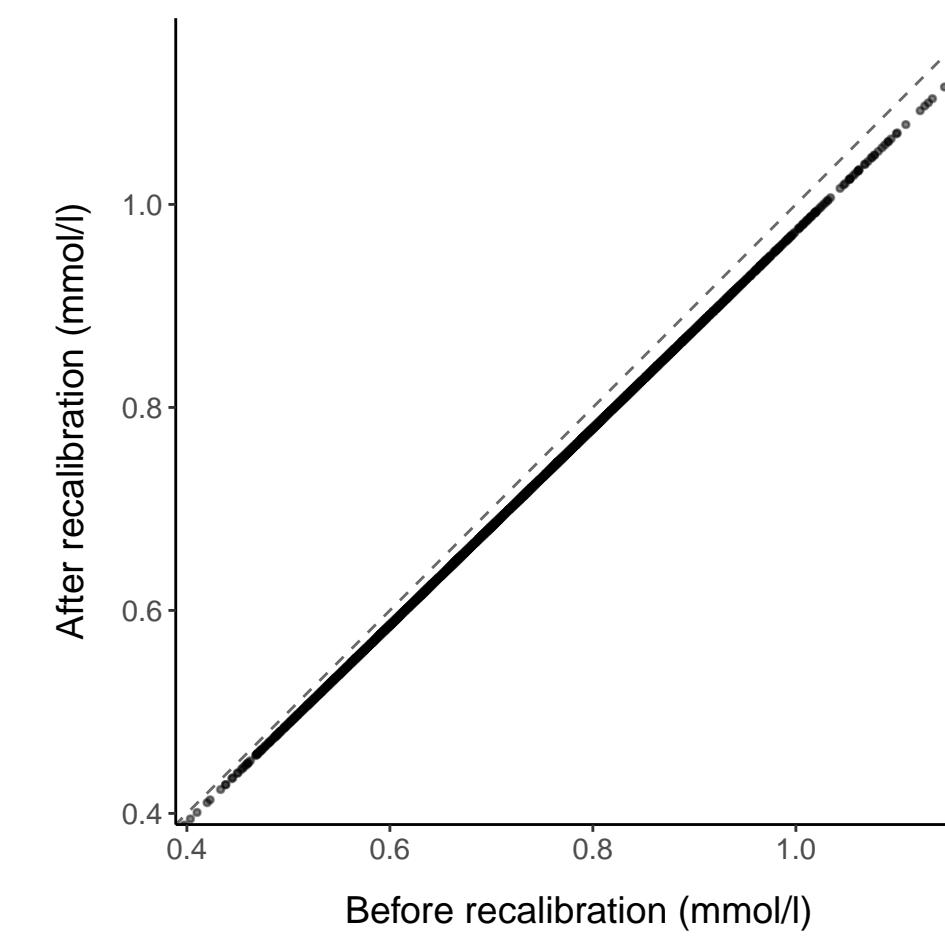
**S\_HDL\_L**

R: 1  
 $y = 0.00 + 0.97x$



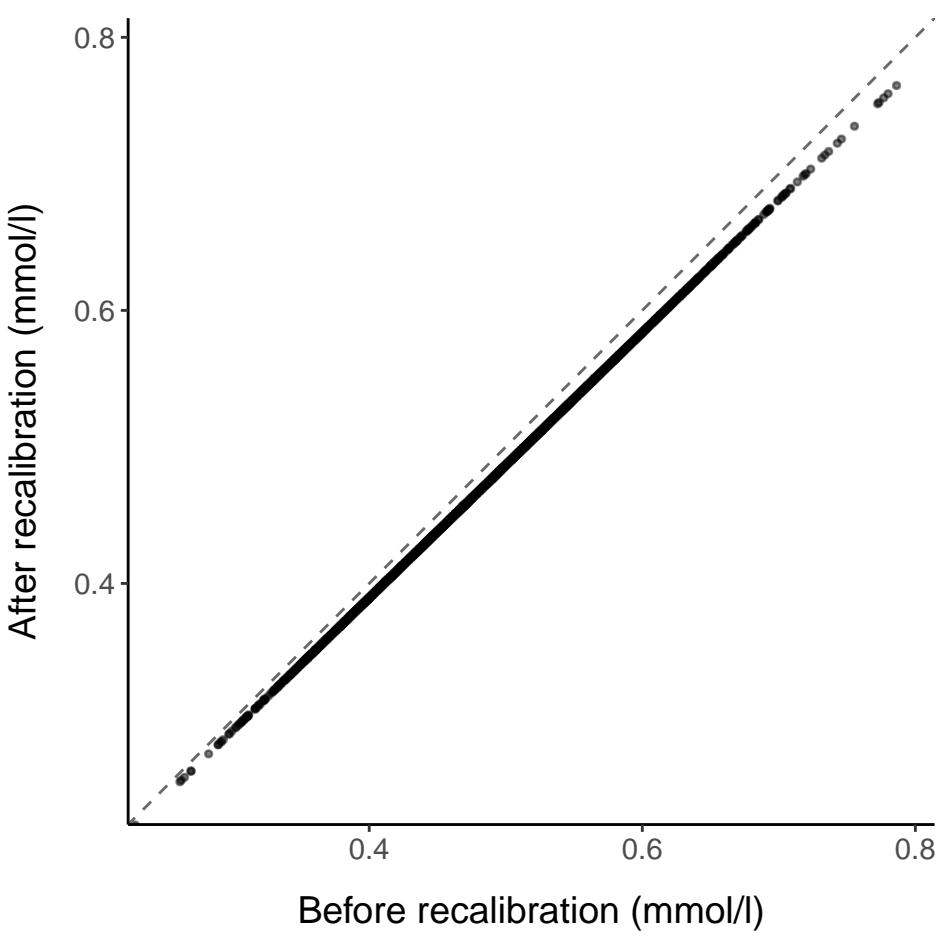
**S\_HDL\_PL**

R: 1  
 $y = 0.00 + 0.97x$



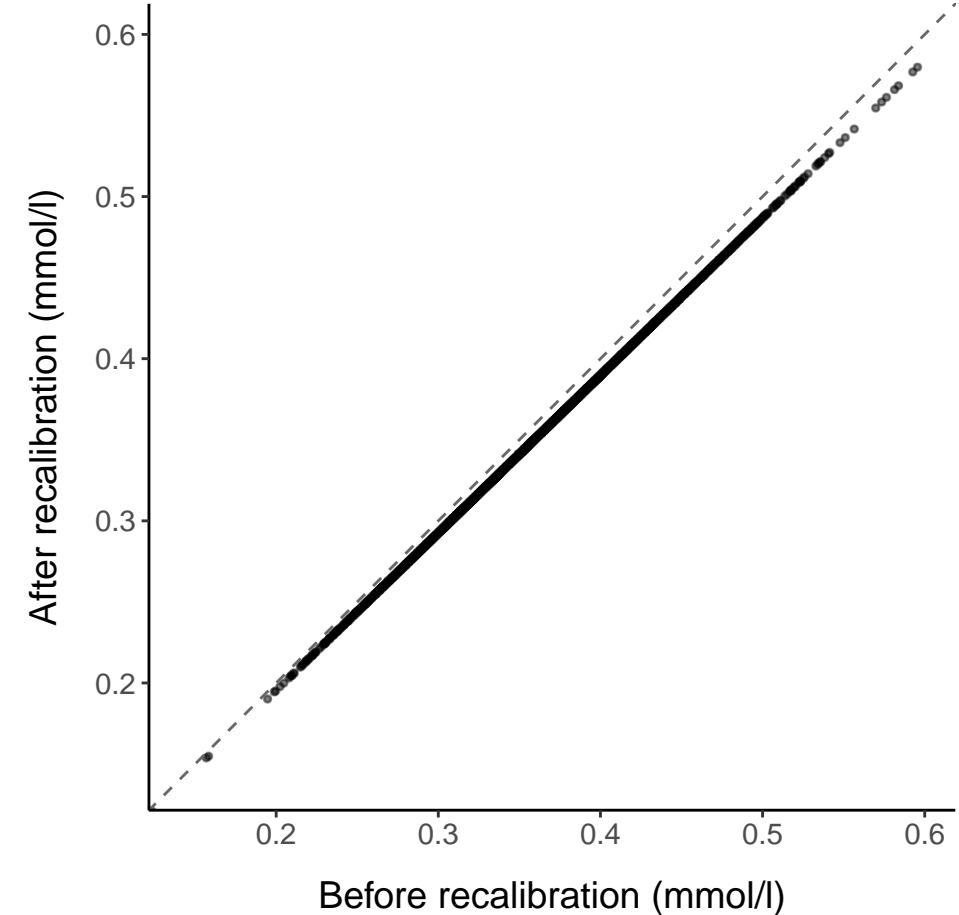
**S\_HDL\_C**

R: 1  
 $y = 0.00 + 0.97x$



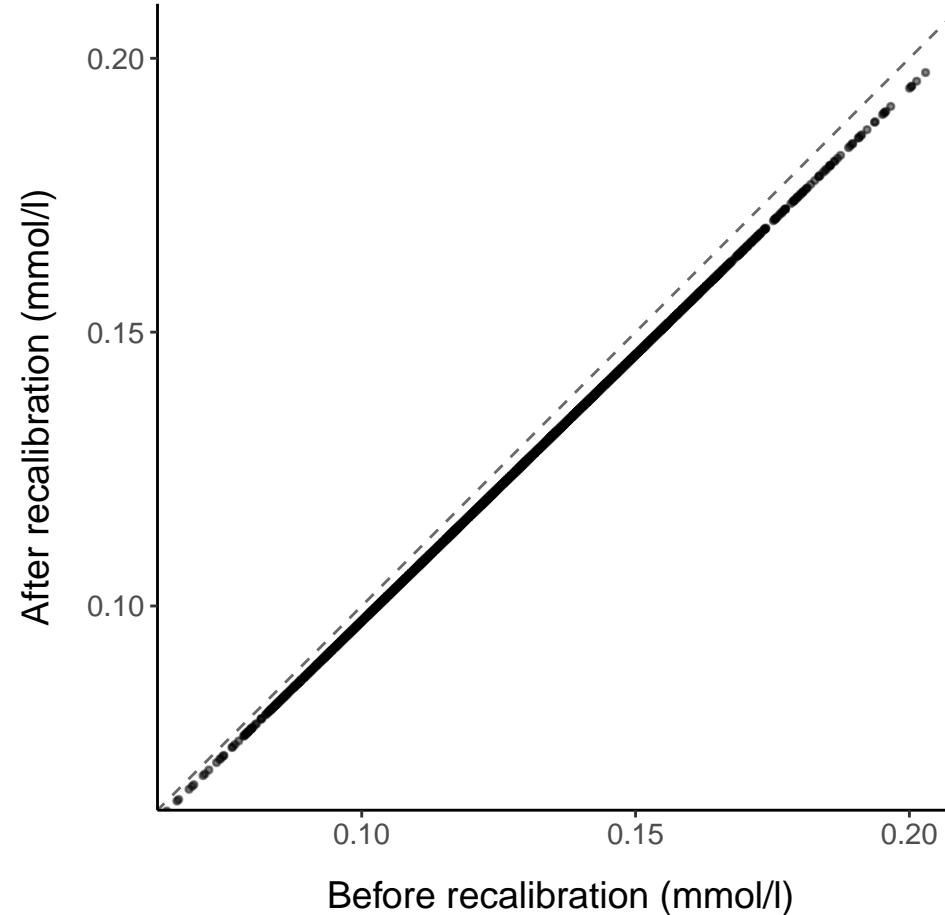
**S\_HDL\_CE**

R: 1  
 $y = 0.00 + 0.97x$



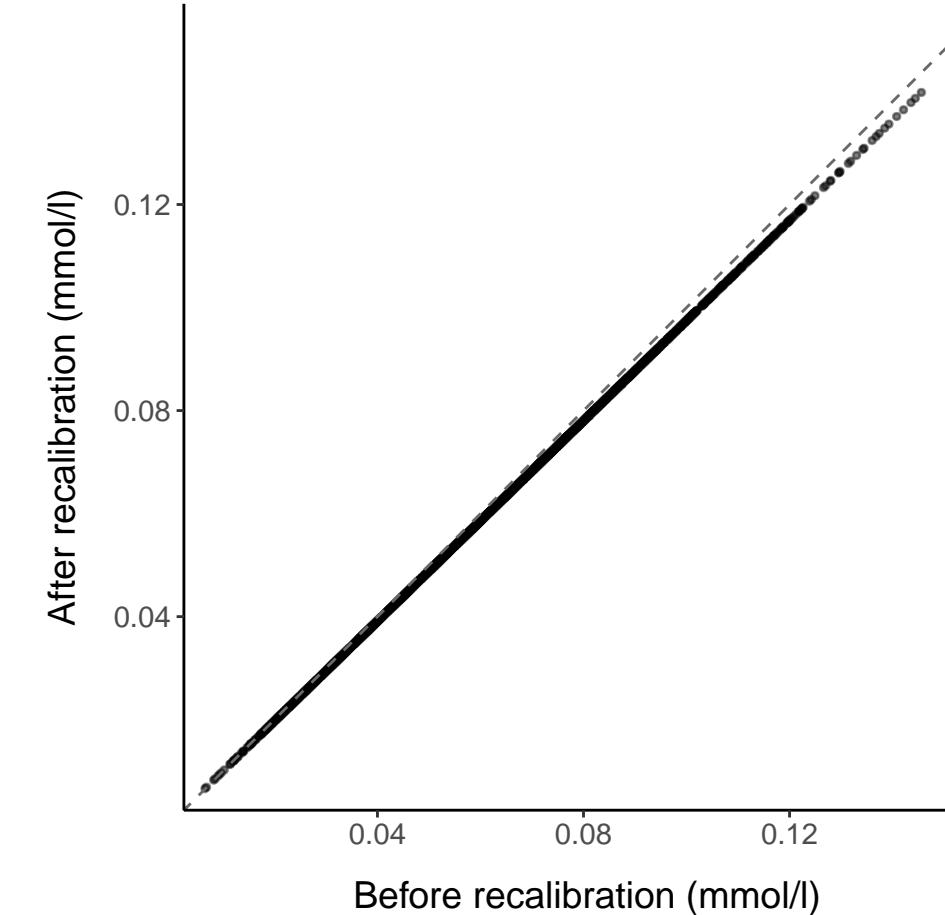
**S\_HDL\_FC**

R: 1  
 $y = 0.00 + 0.97x$



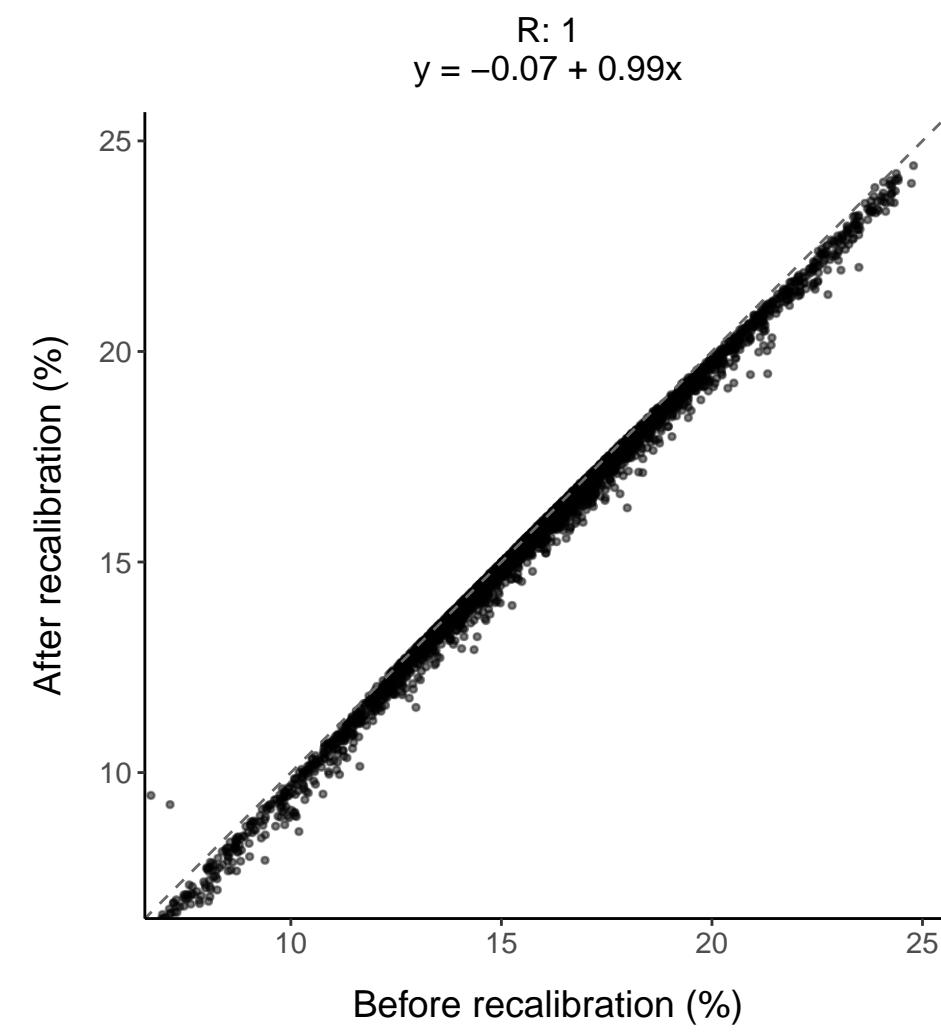
**S\_HDL\_TG**

R: 1  
 $y = 0.00 + 0.97x$

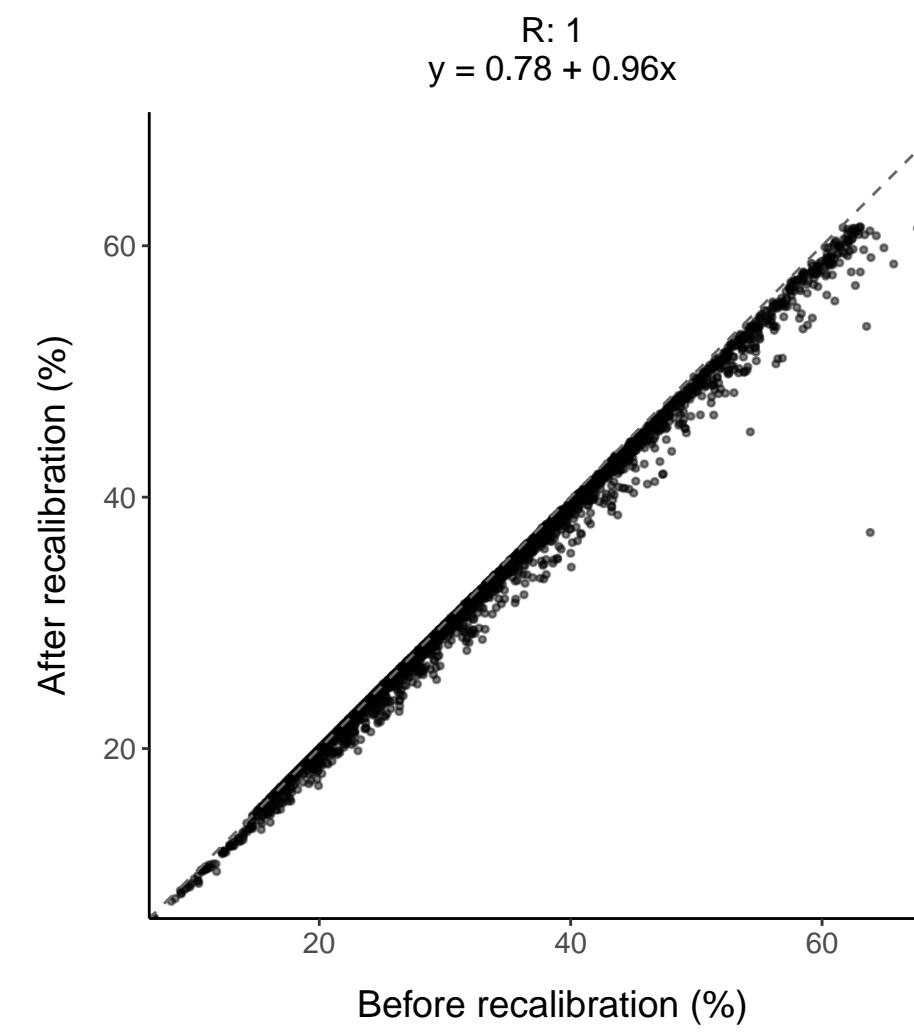


## Chylomicrons and extremely large VLDL ratios

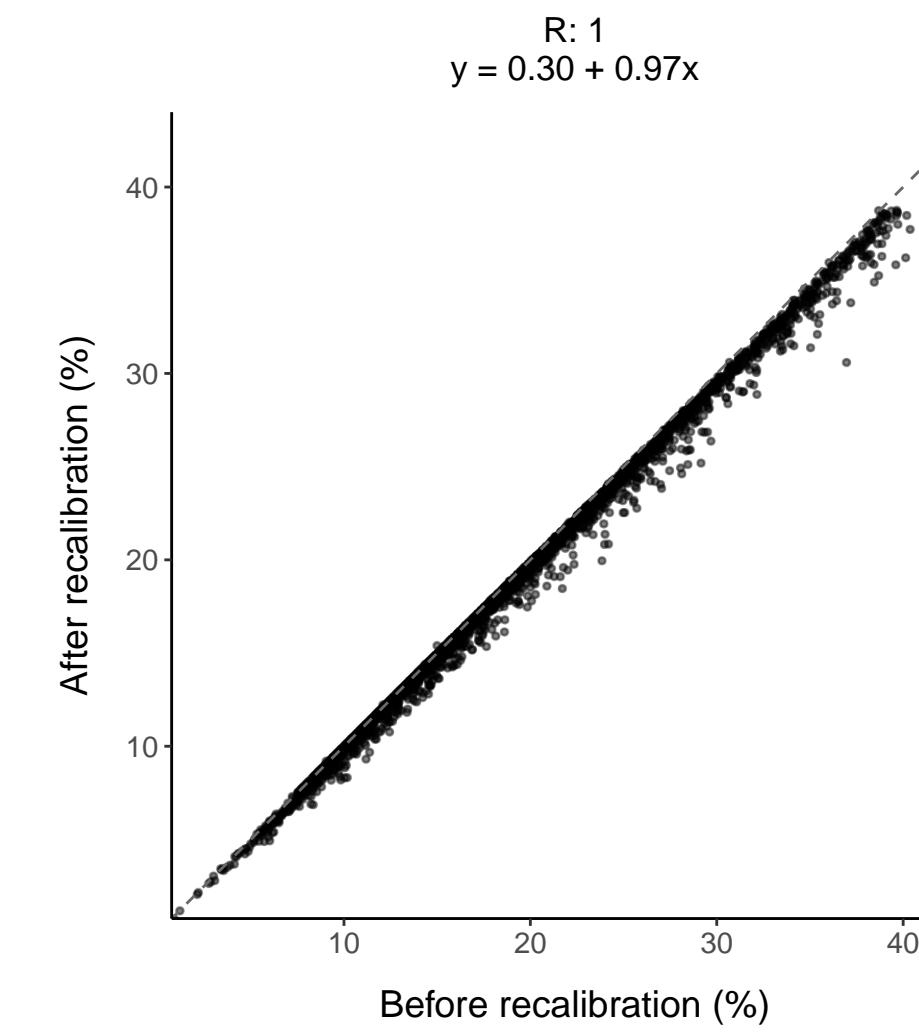
**XXL\_VLDL\_PL\_pct**



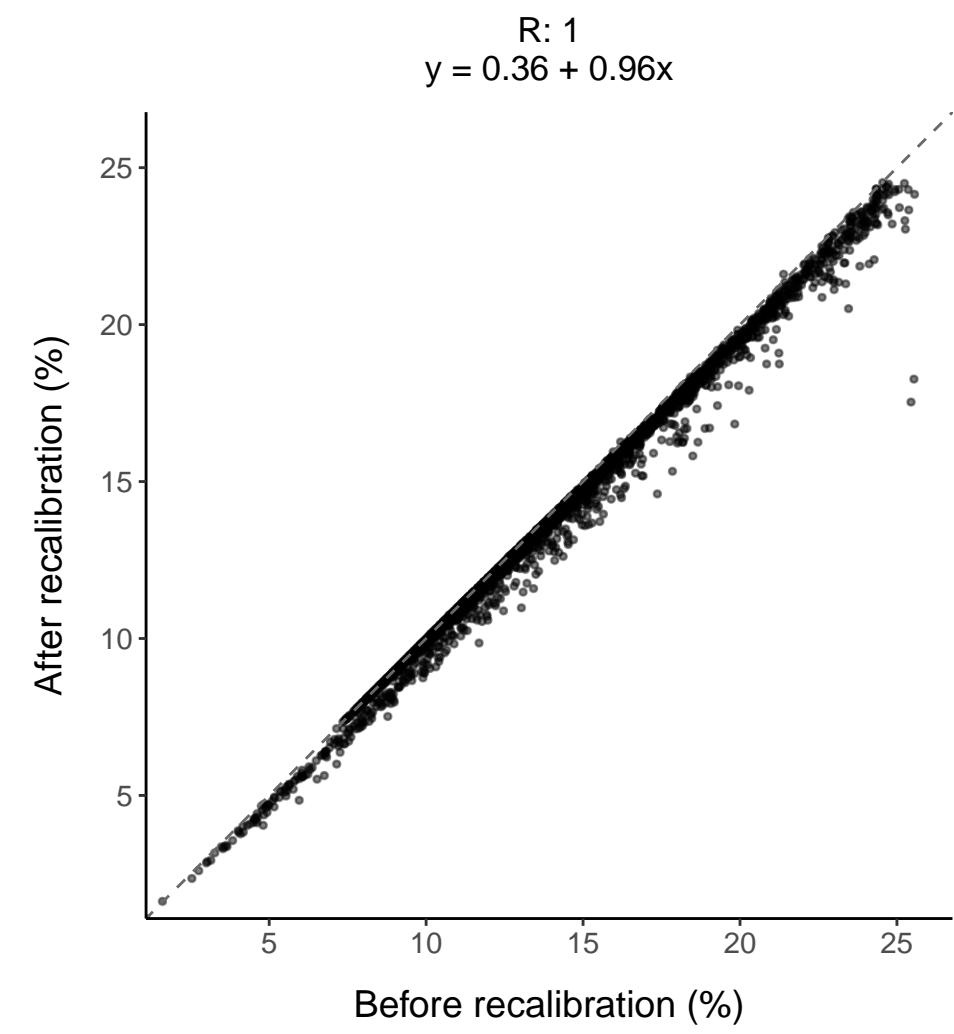
**XXL\_VLDL\_C\_pct**



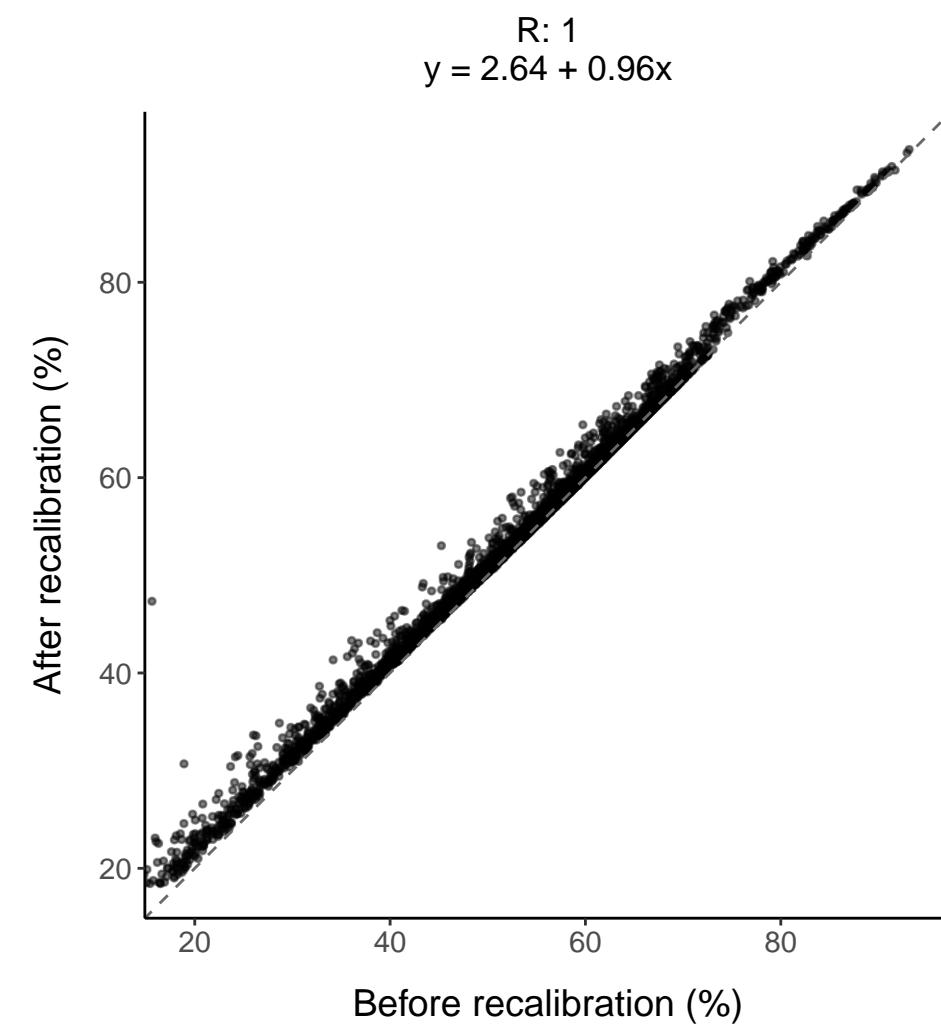
**XXL\_VLDL\_CE\_pct**



**XXL\_VLDL\_FC\_pct**

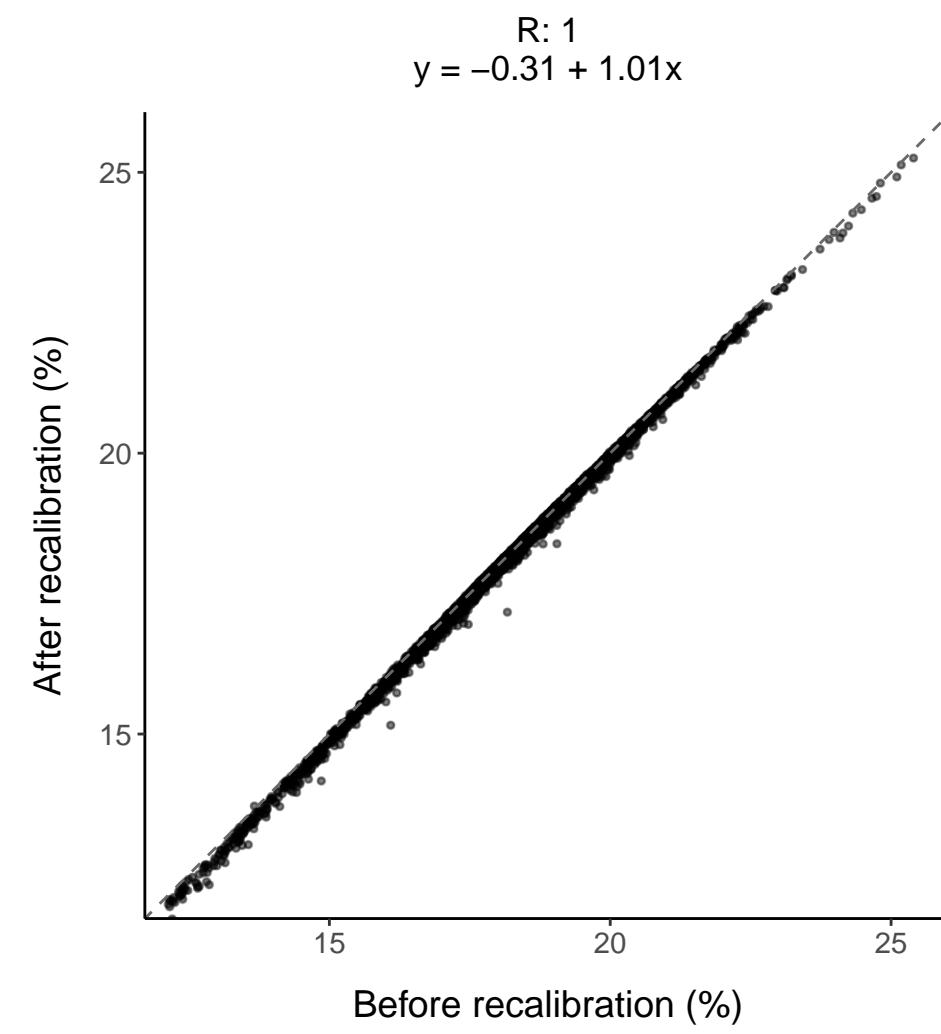


**XXL\_VLDL\_TG\_pct**

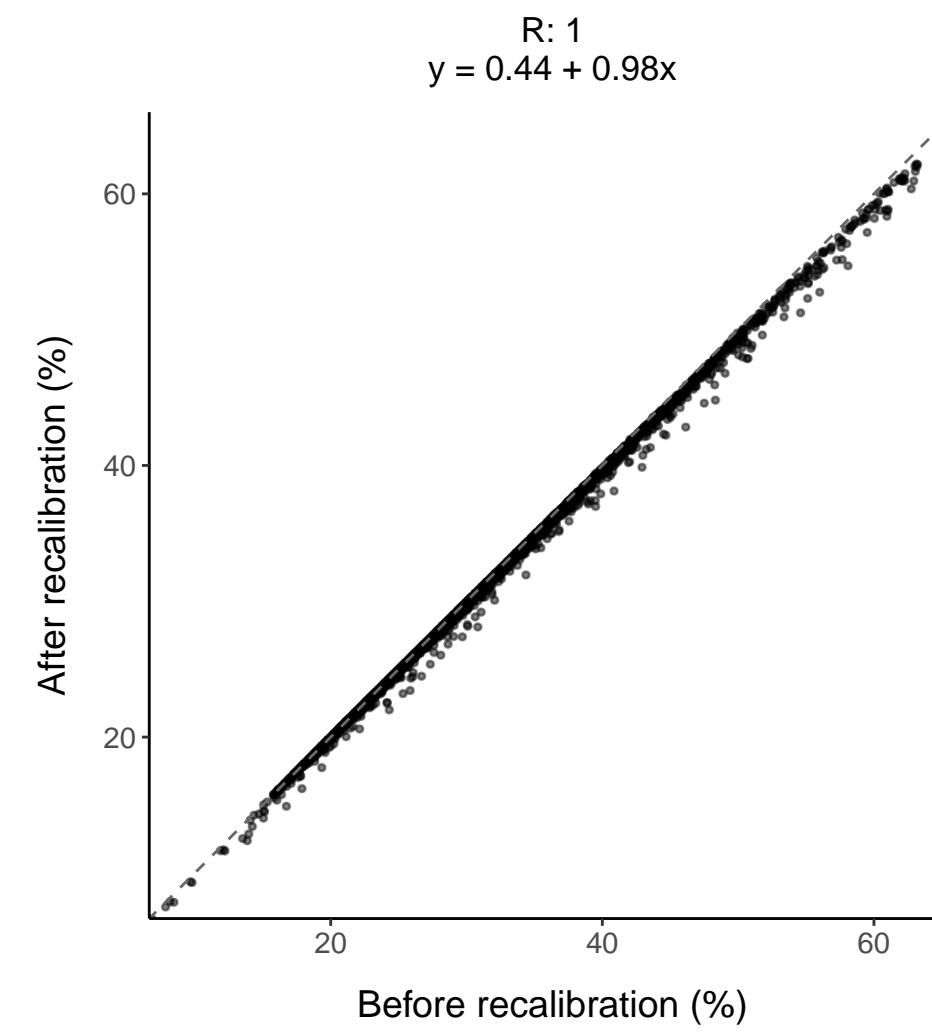


## Very large VLDL ratios

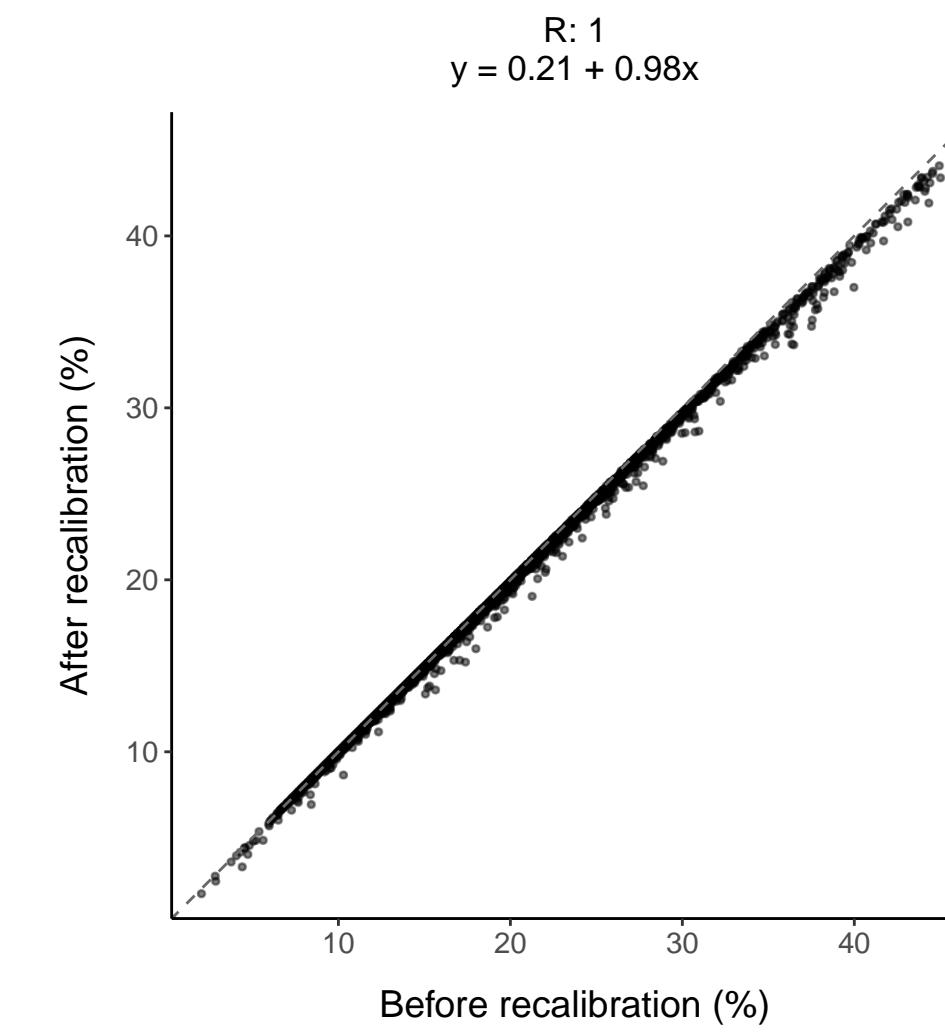
**XL\_VLDL\_PL\_pct**



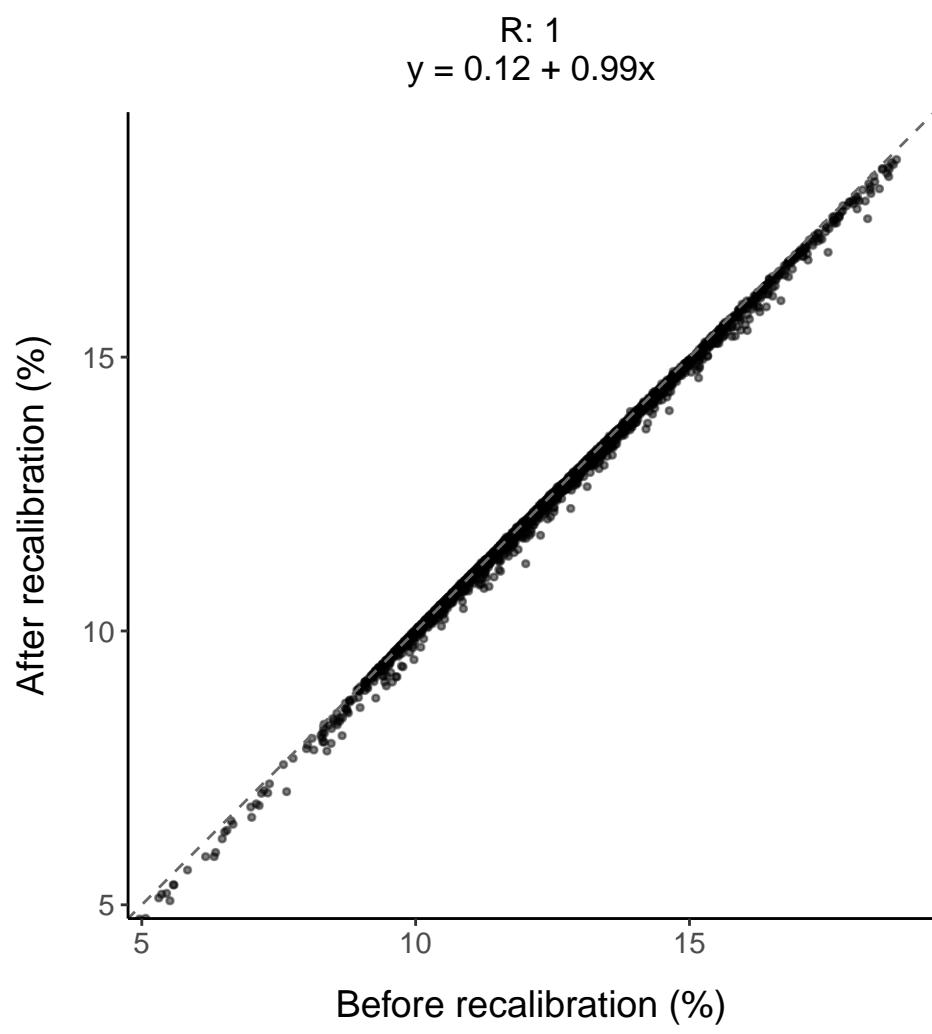
**XL\_VLDL\_C\_pct**



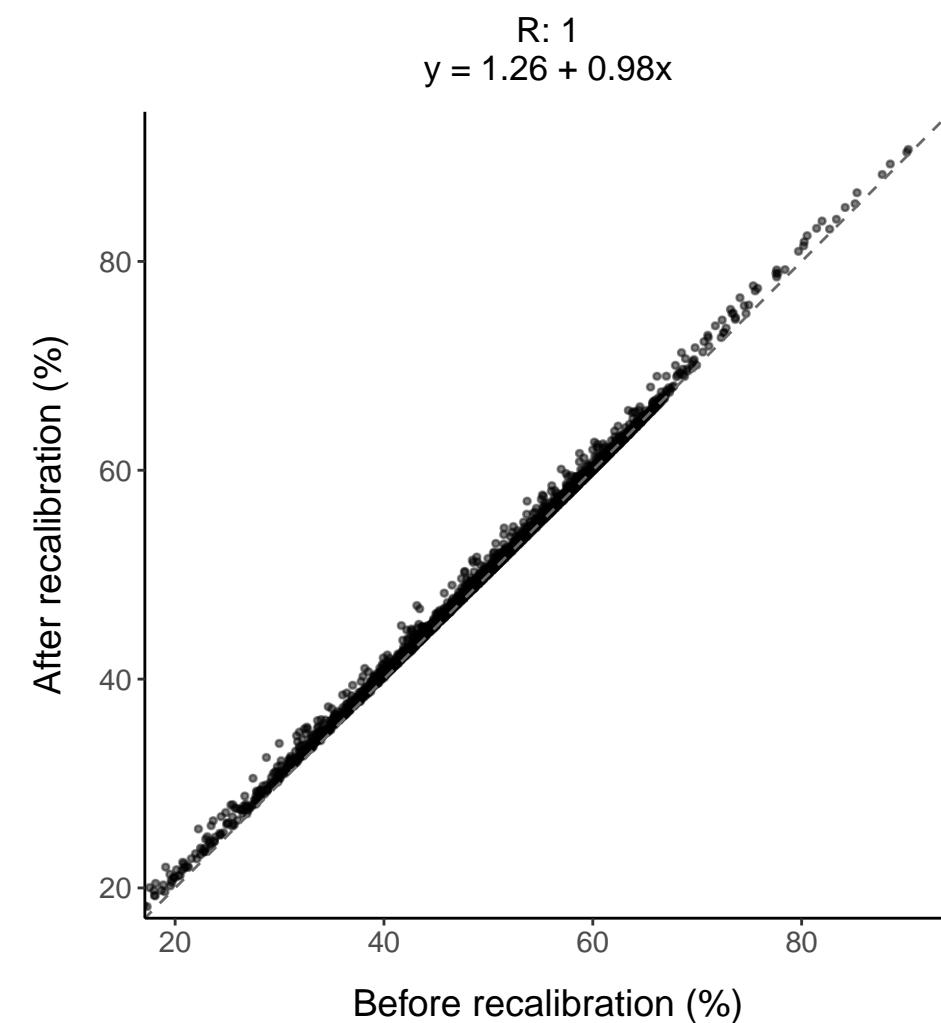
**XL\_VLDL\_CE\_pct**



**XL\_VLDL\_FC\_pct**

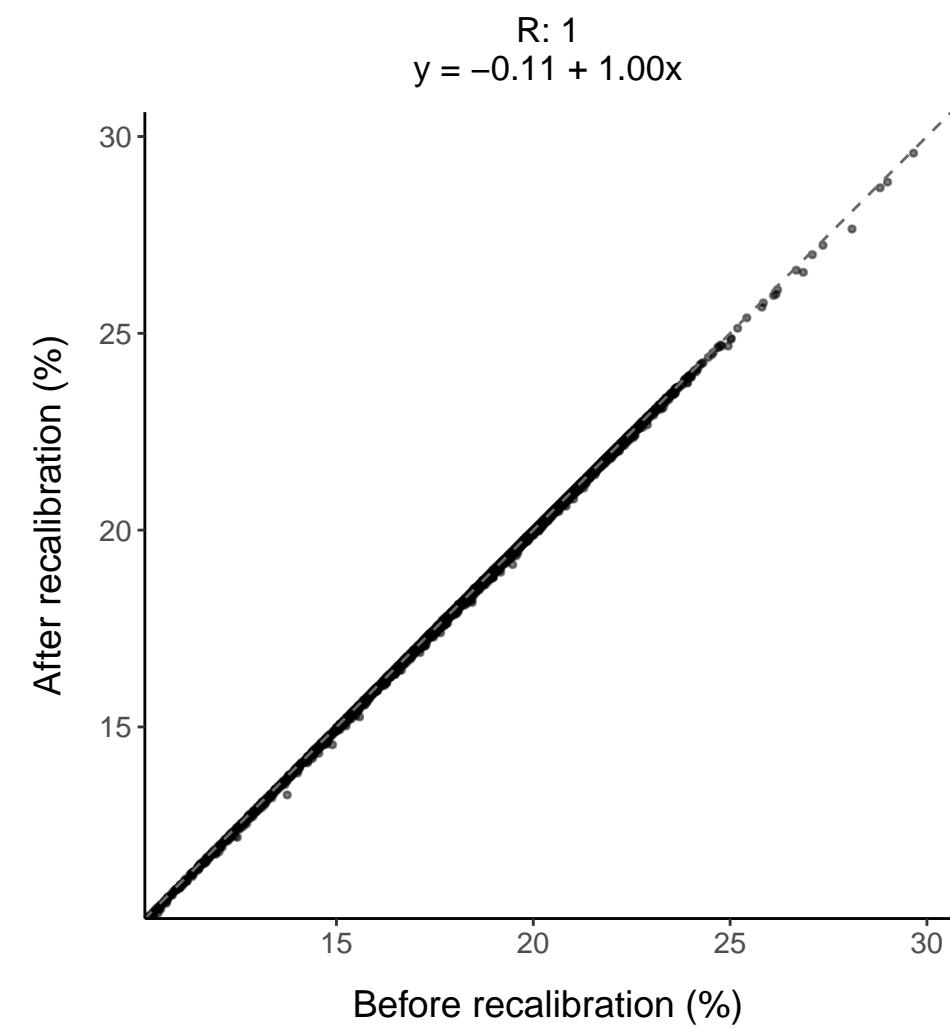


**XL\_VLDL\_TG\_pct**

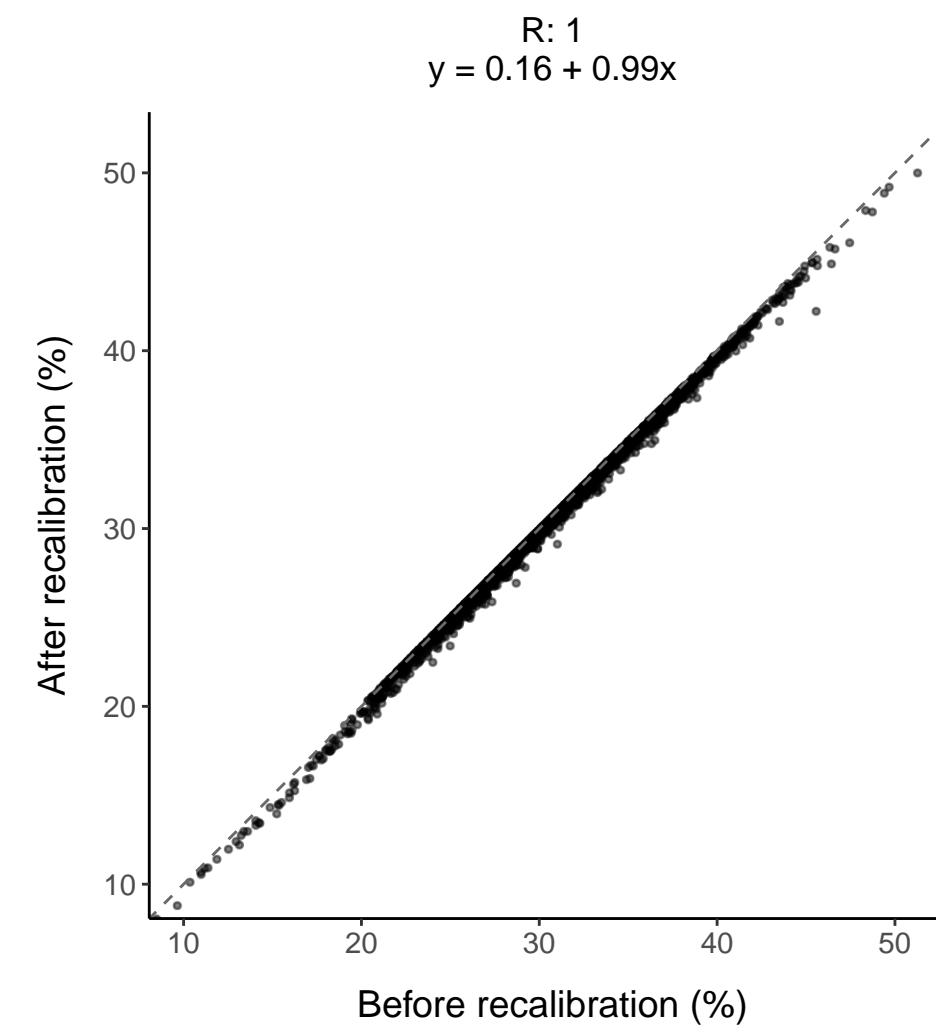


## Large VLDL ratios

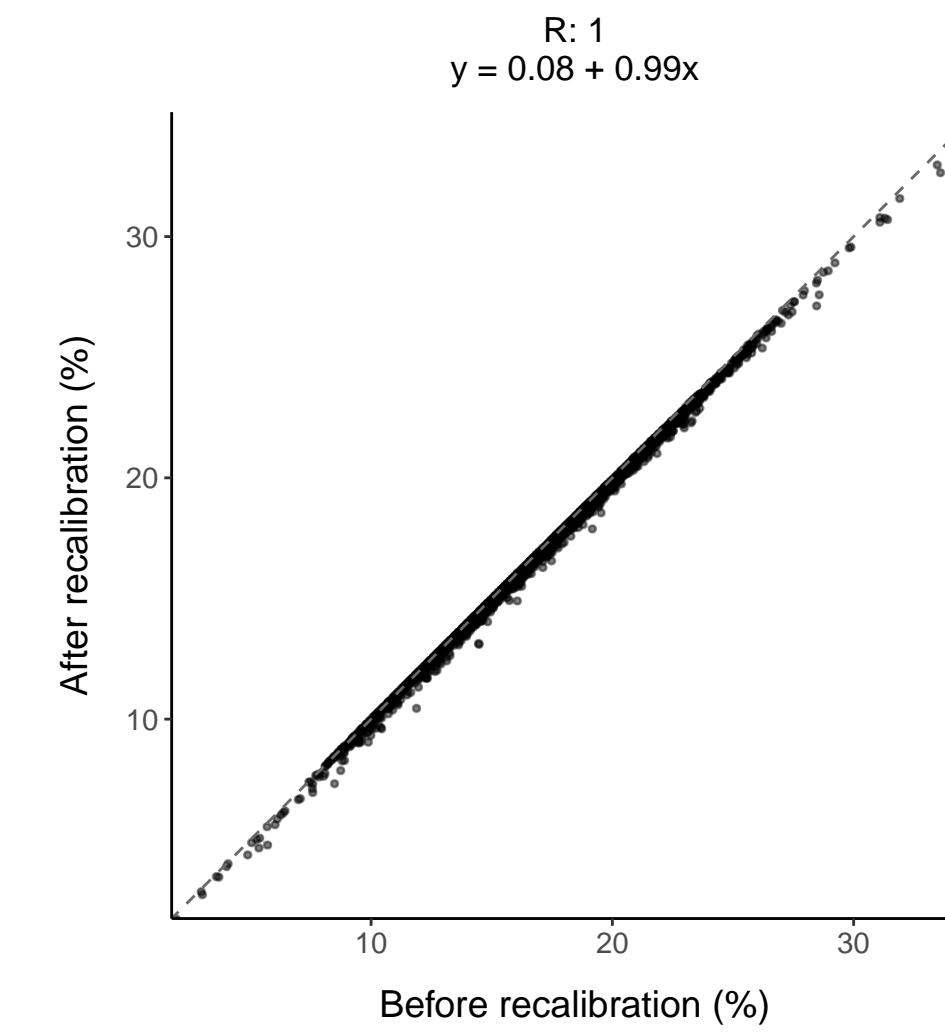
L\_VLDL\_PL\_pct



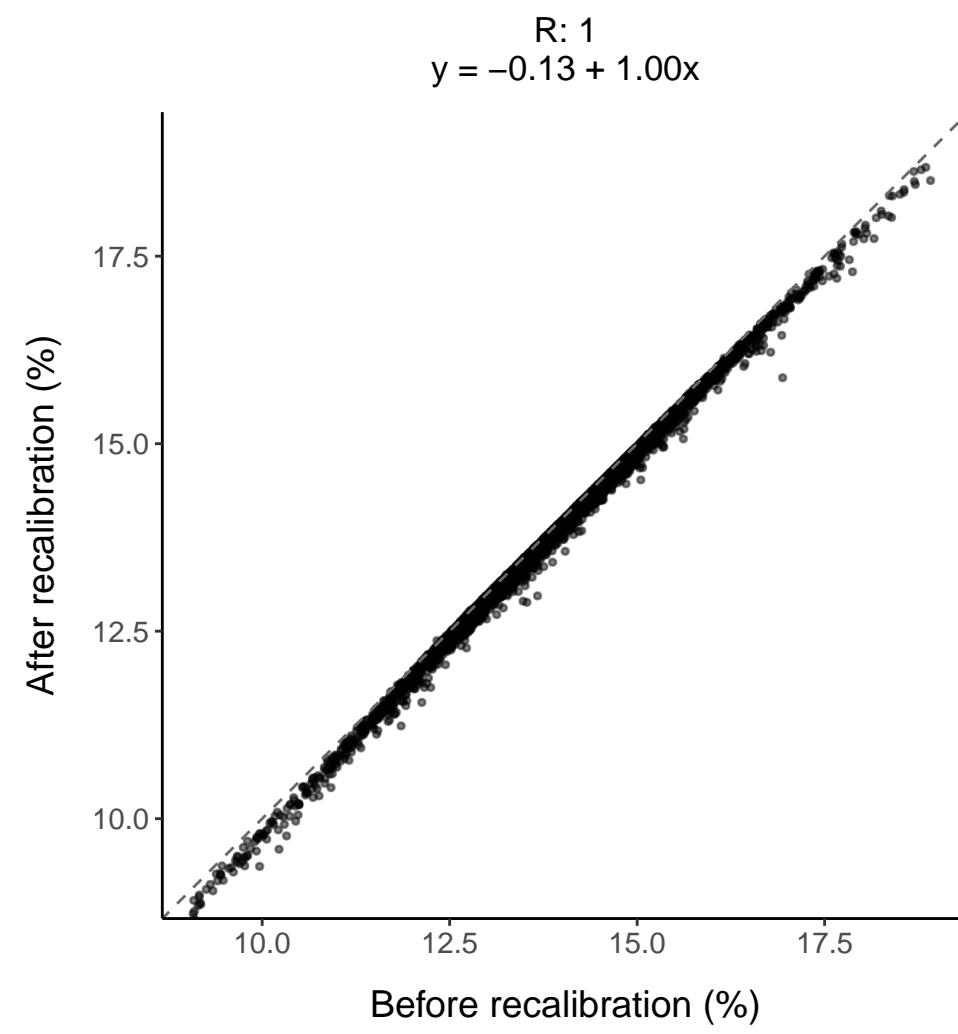
L\_VLDL\_C\_pct



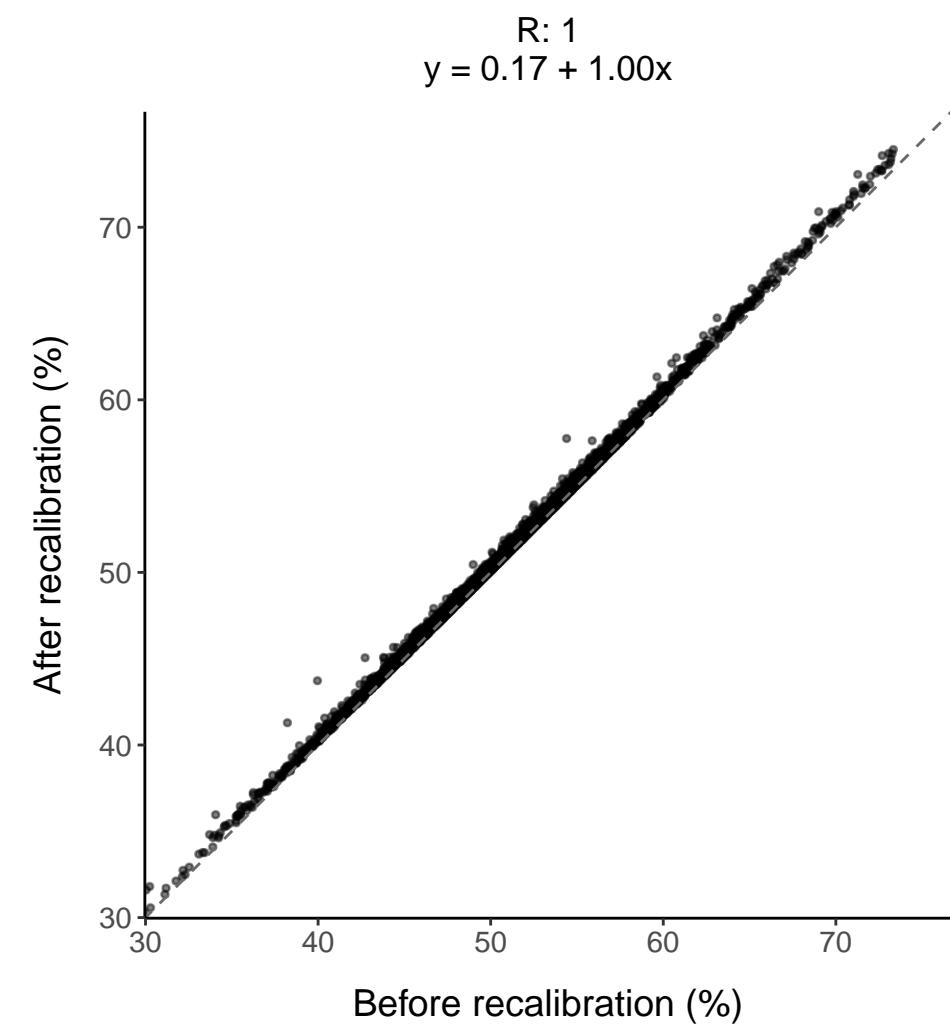
L\_VLDL\_CE\_pct



L\_VLDL\_FC\_pct

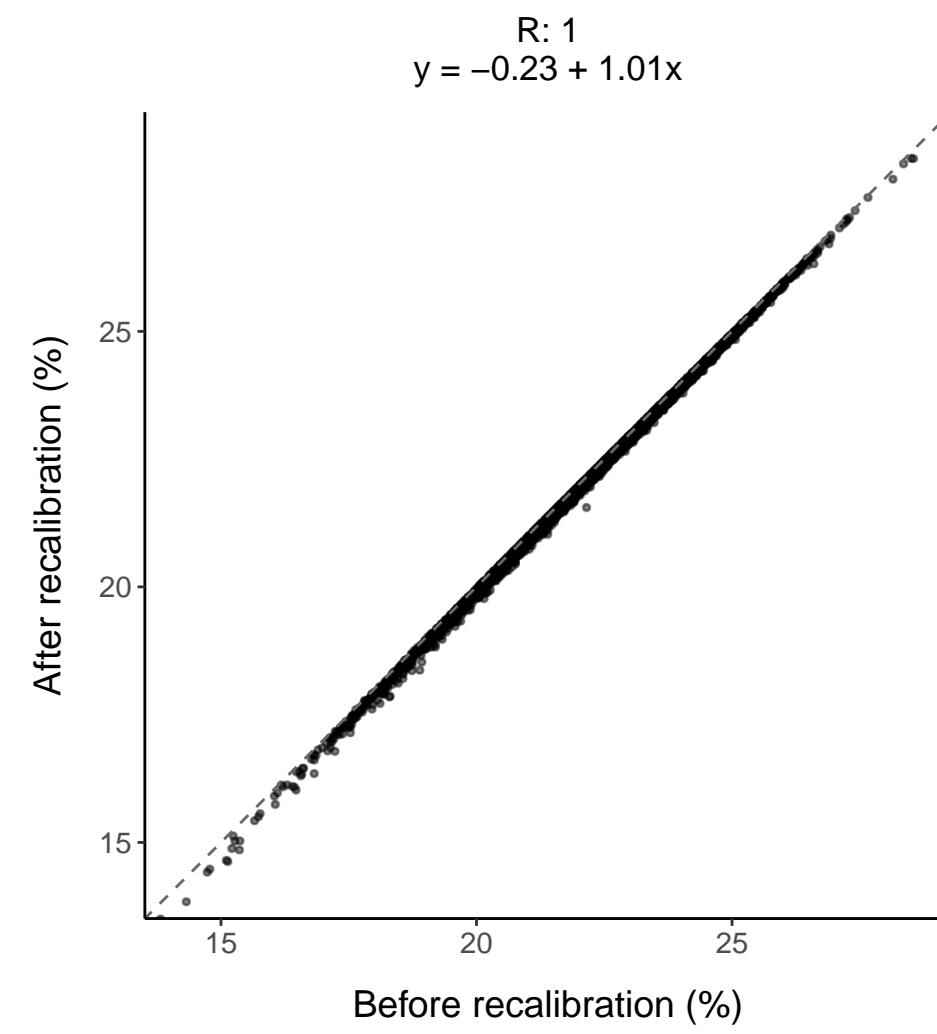


L\_VLDL\_TG\_pct

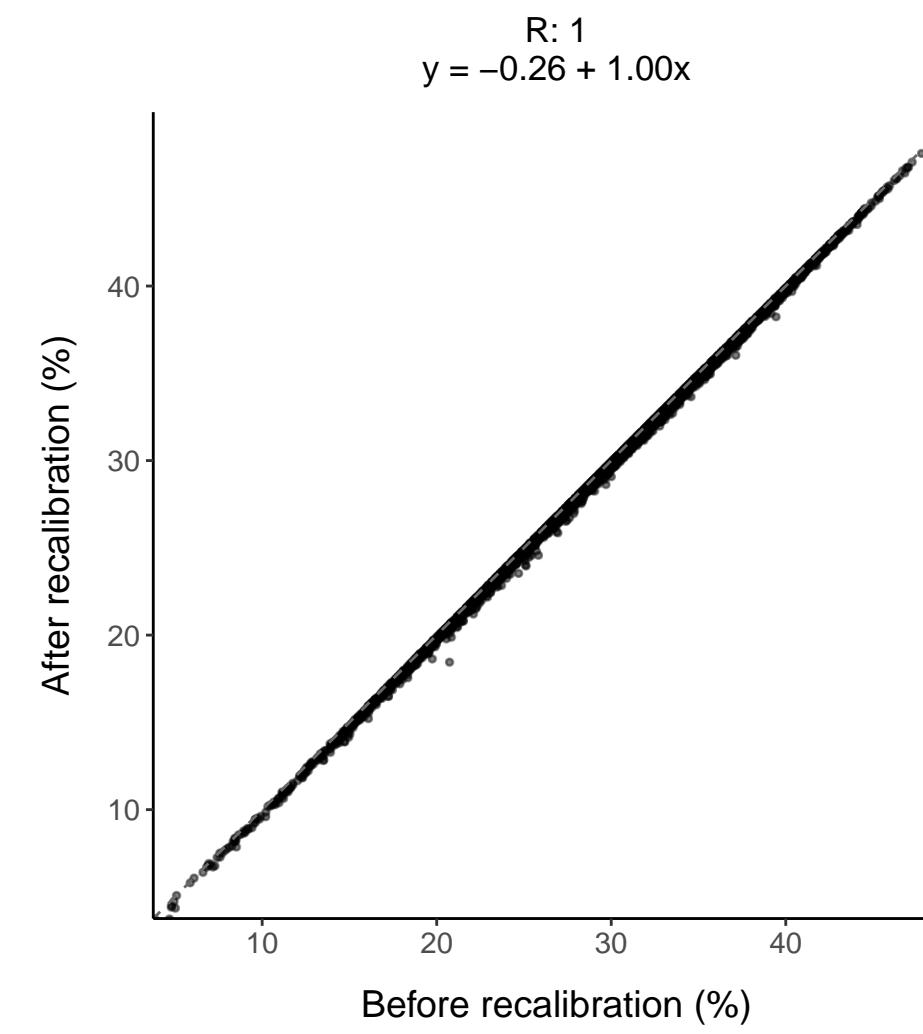


## Medium VLDL ratios

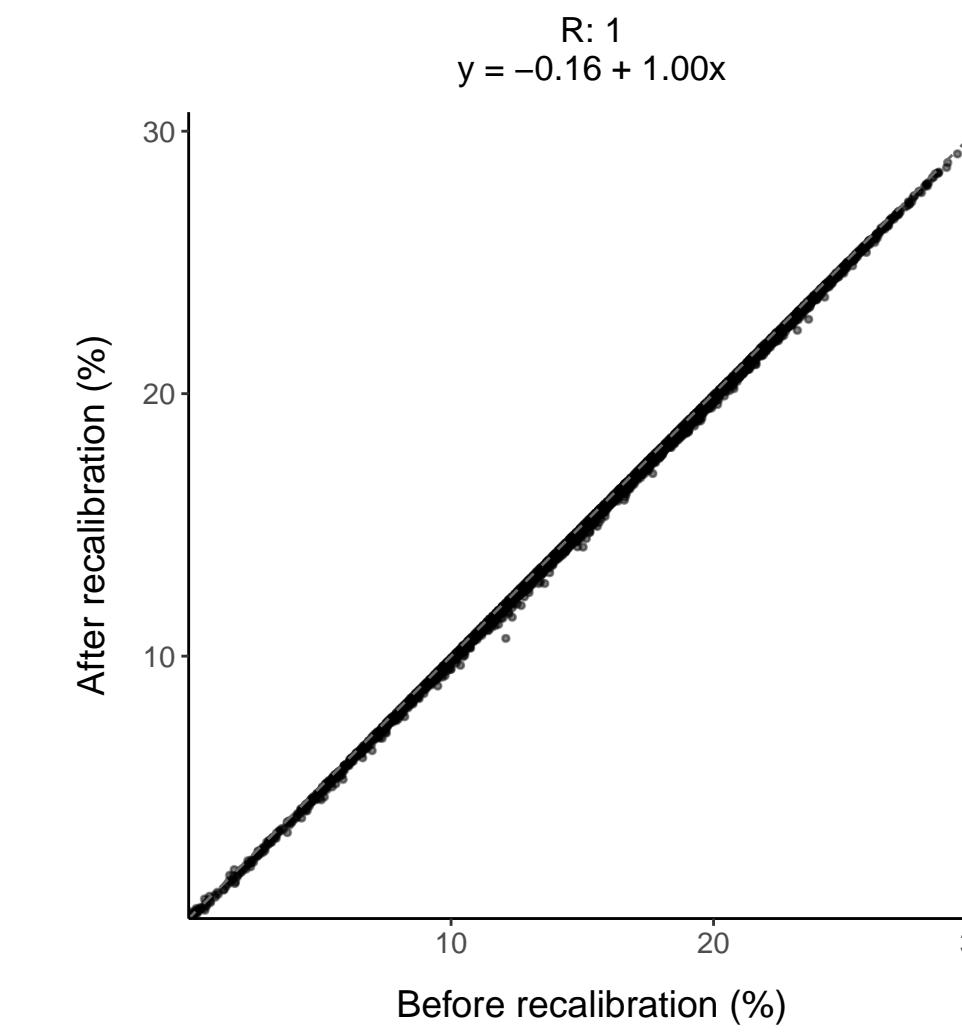
**M\_VLDL\_PL\_pct**



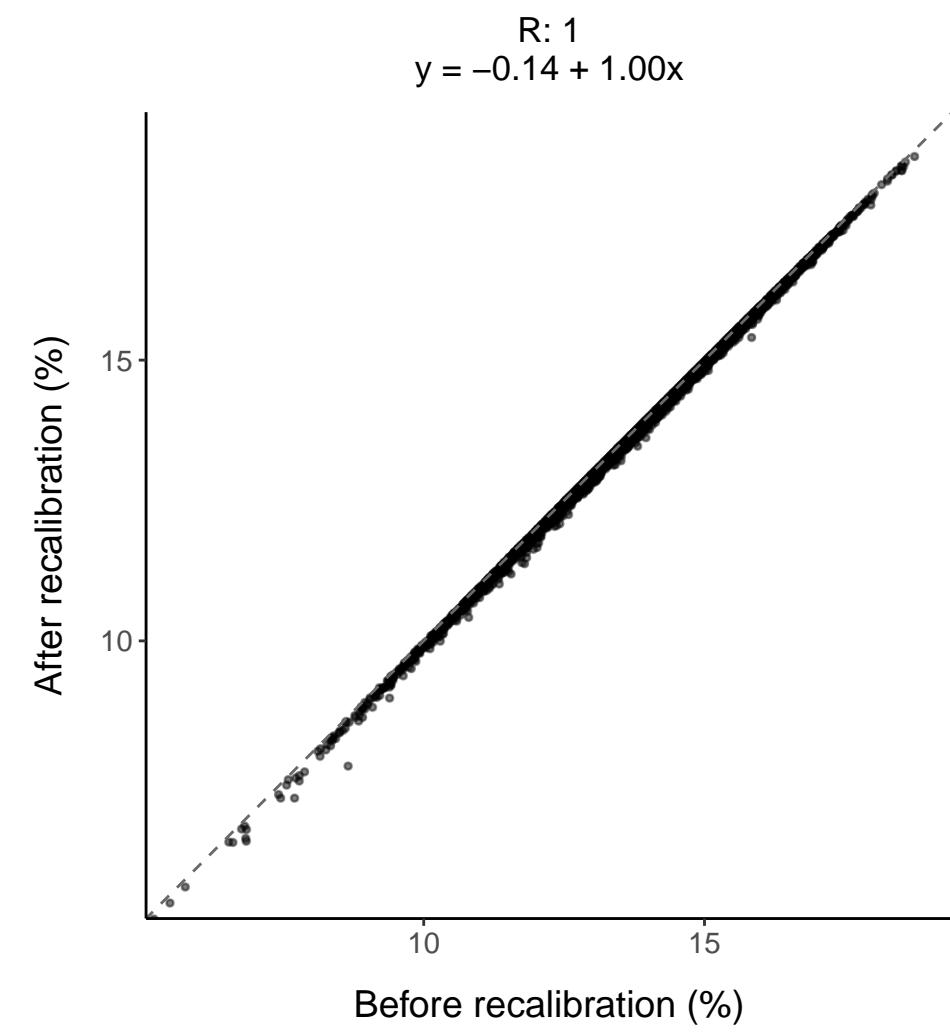
**M\_VLDL\_C\_pct**



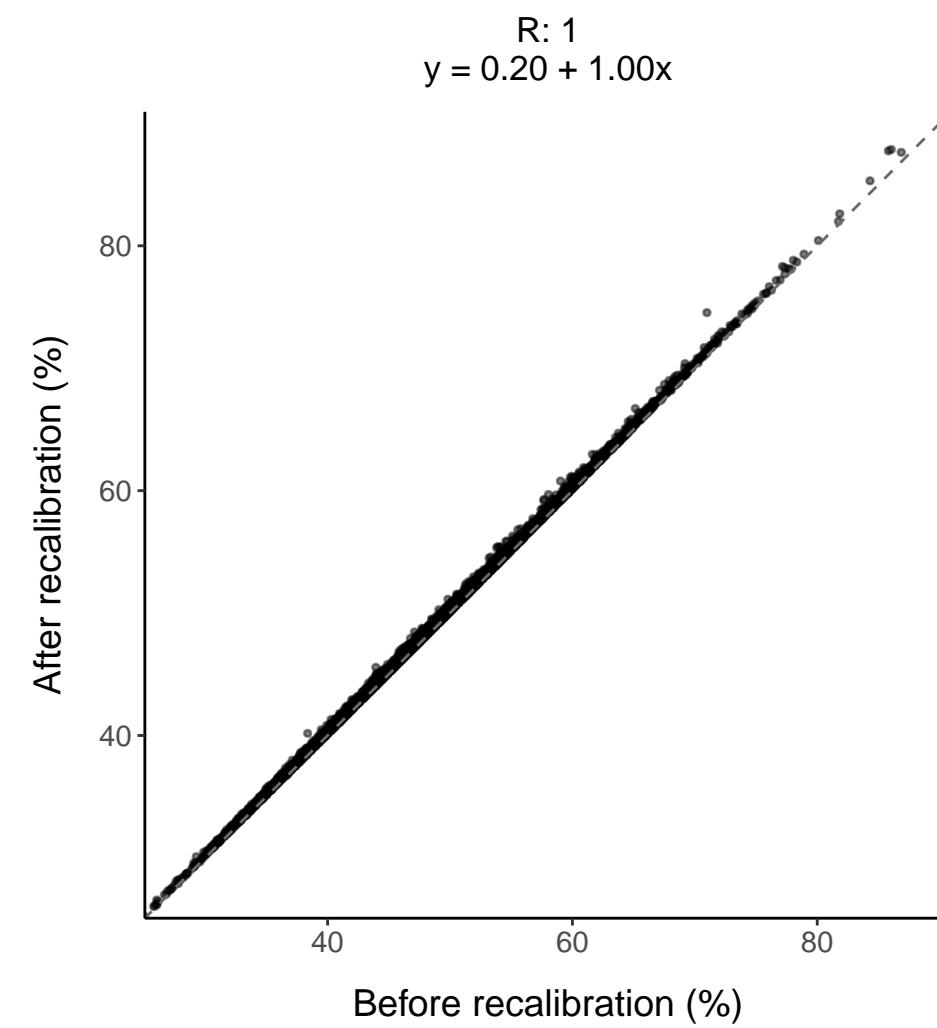
**M\_VLDL\_CE\_pct**



**M\_VLDL\_FC\_pct**

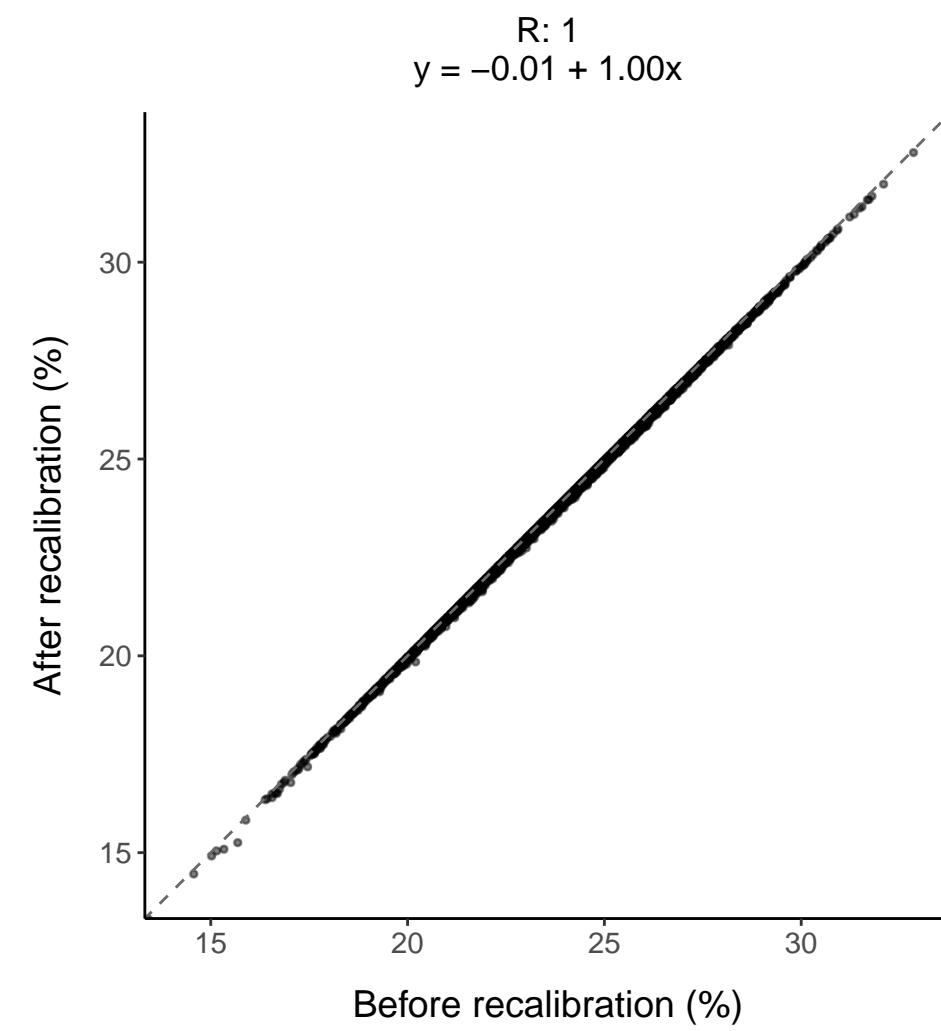


**M\_VLDL\_TG\_pct**

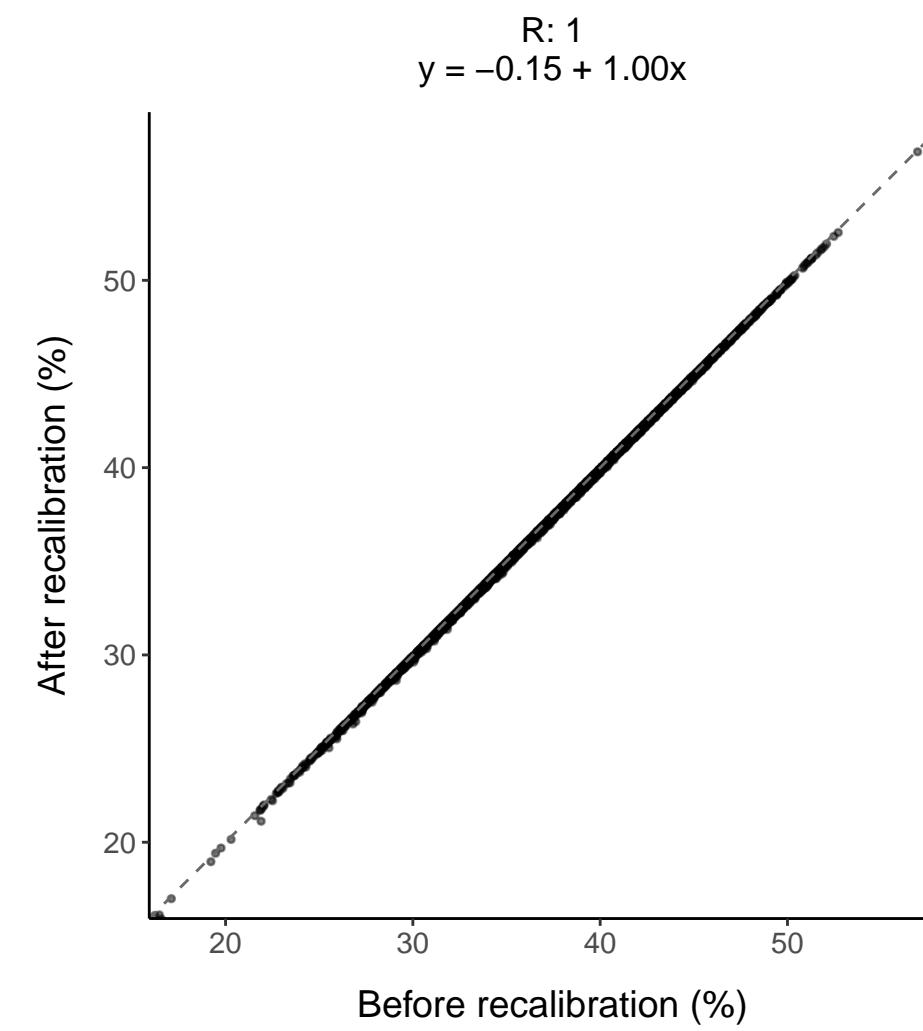


## Small VLDL ratios

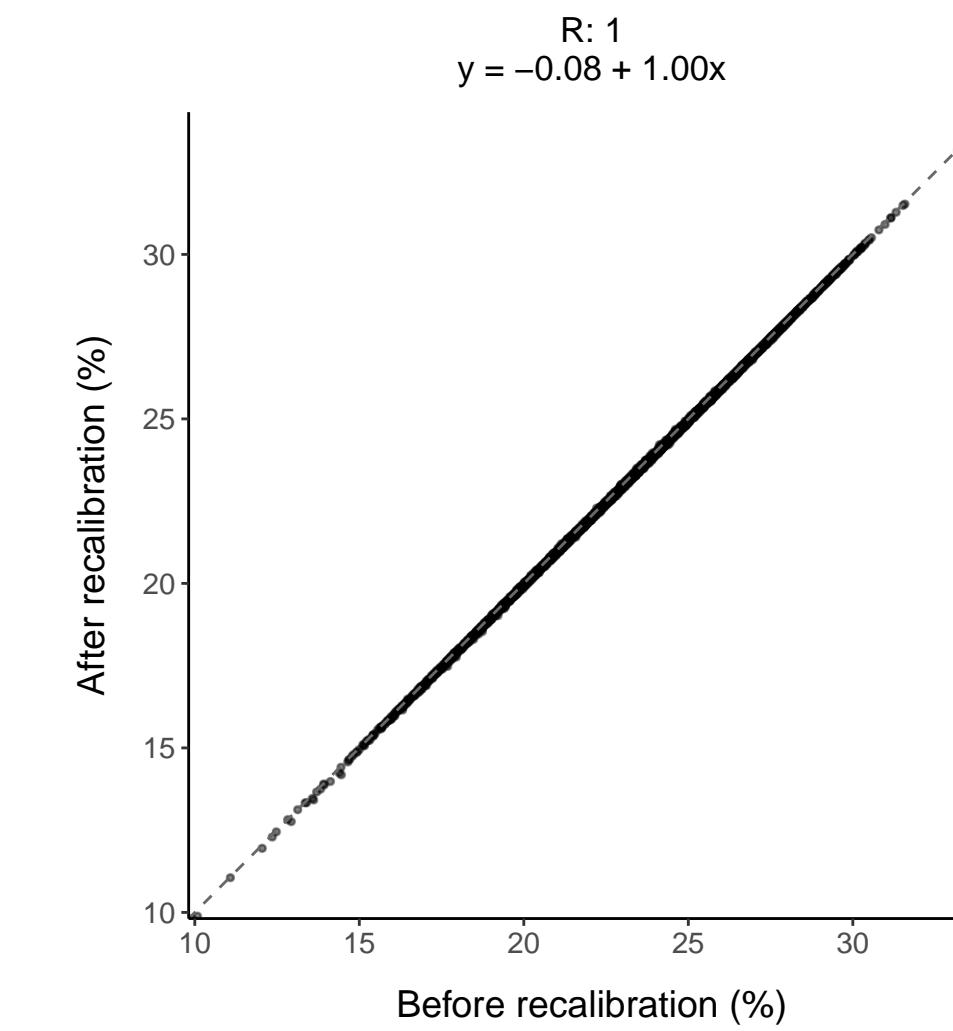
**S\_VLDL\_PL\_pct**



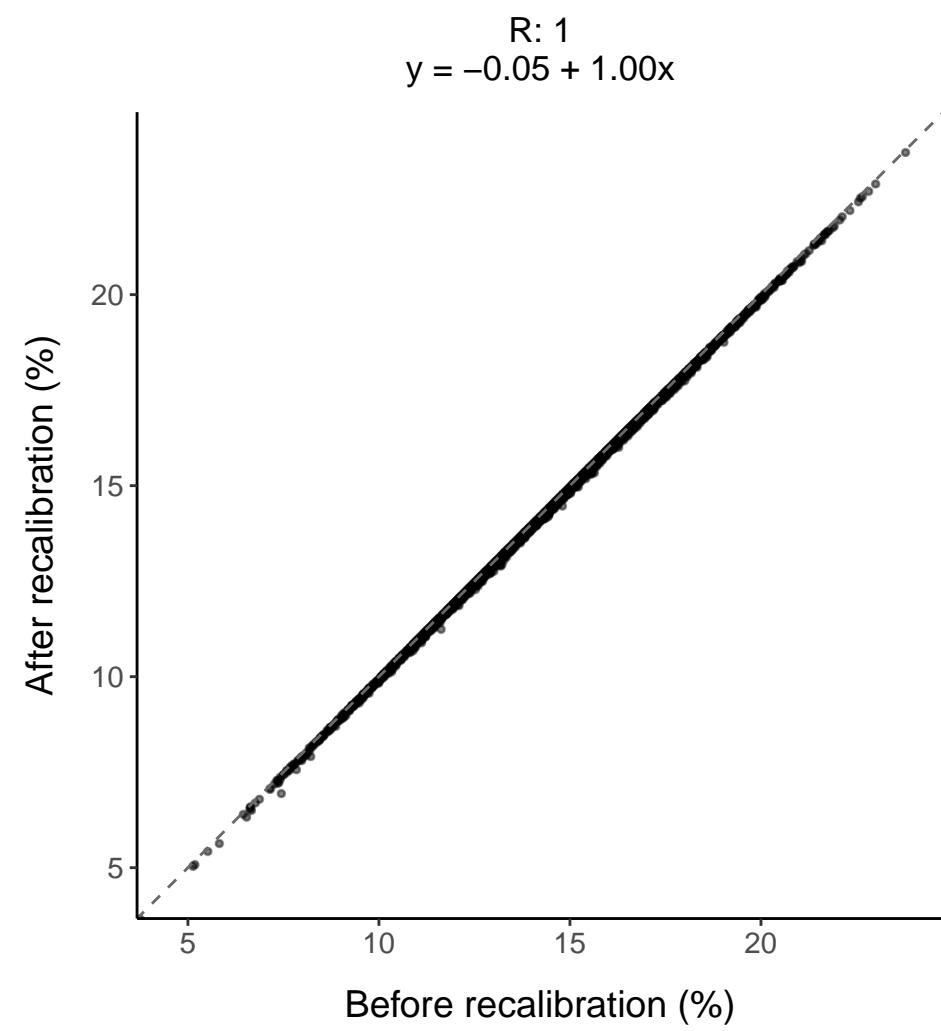
**S\_VLDL\_C\_pct**



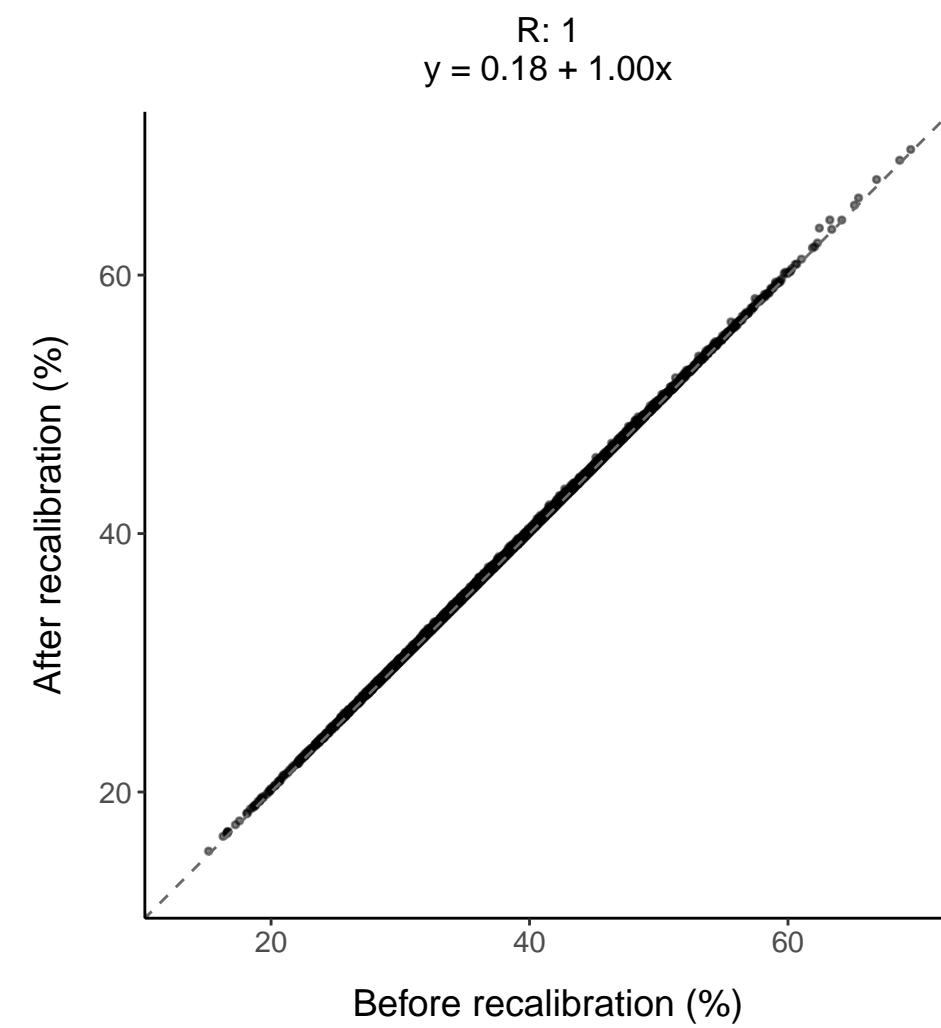
**S\_VLDL\_CE\_pct**



**S\_VLDL\_FC\_pct**

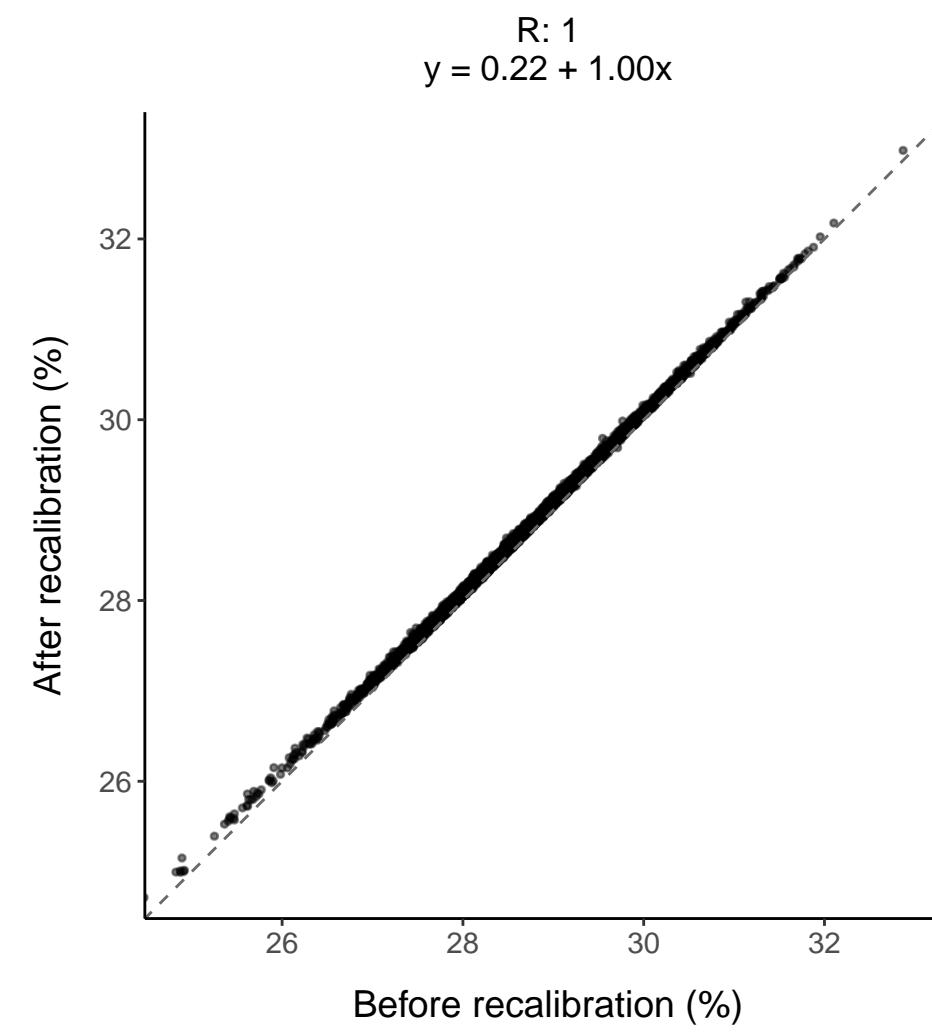


**S\_VLDL\_TG\_pct**

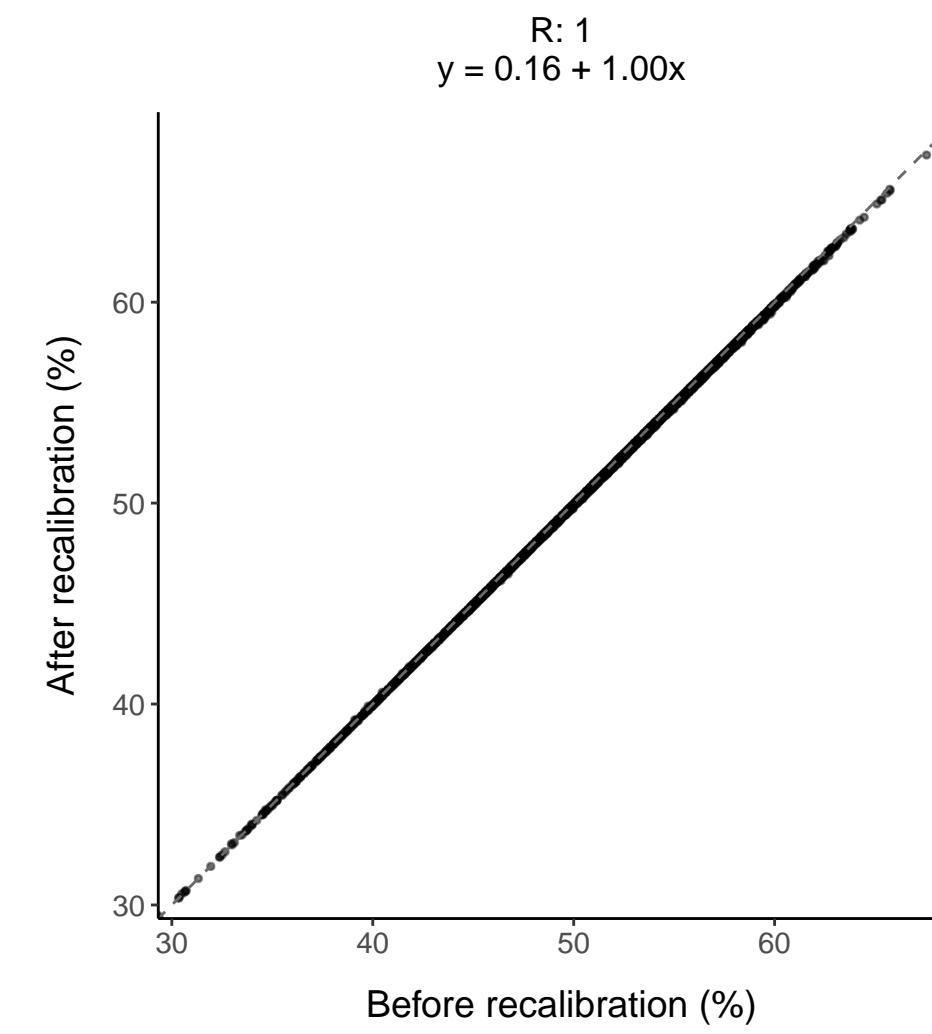


### Very small VLDL ratios

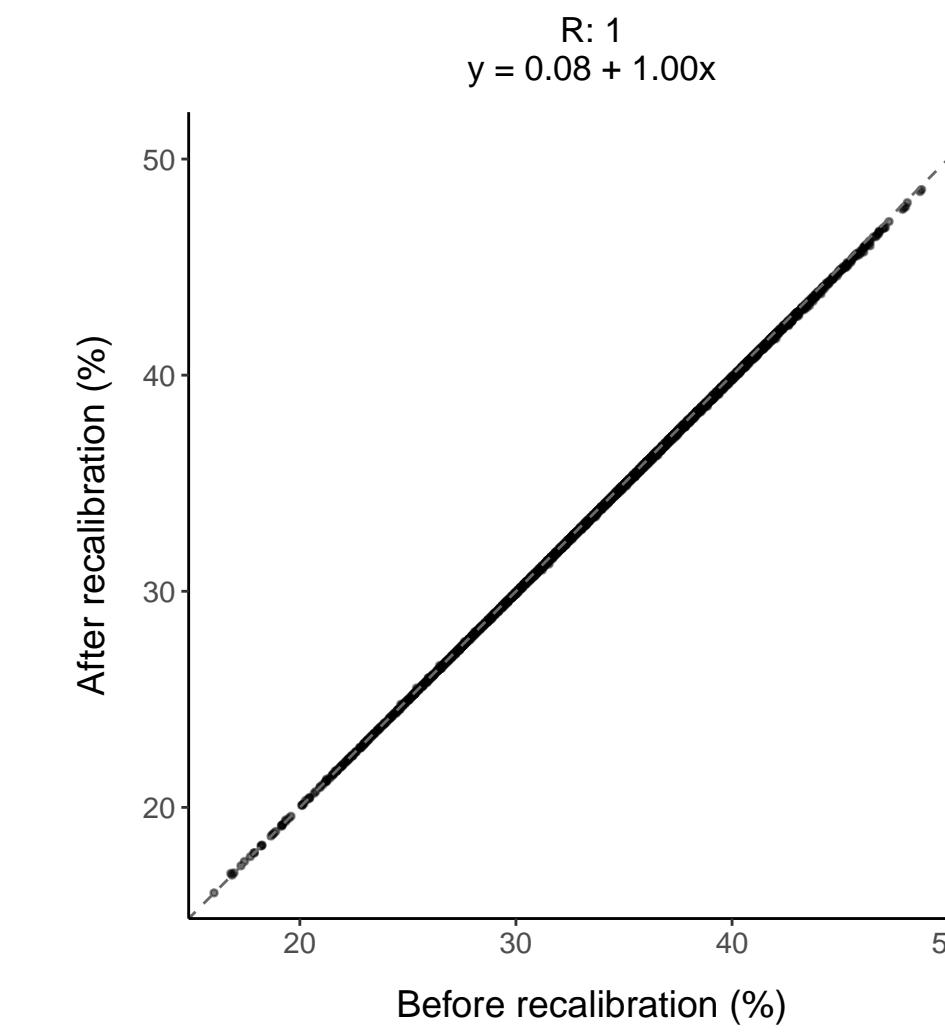
**XS\_VLDL\_PL\_pct**



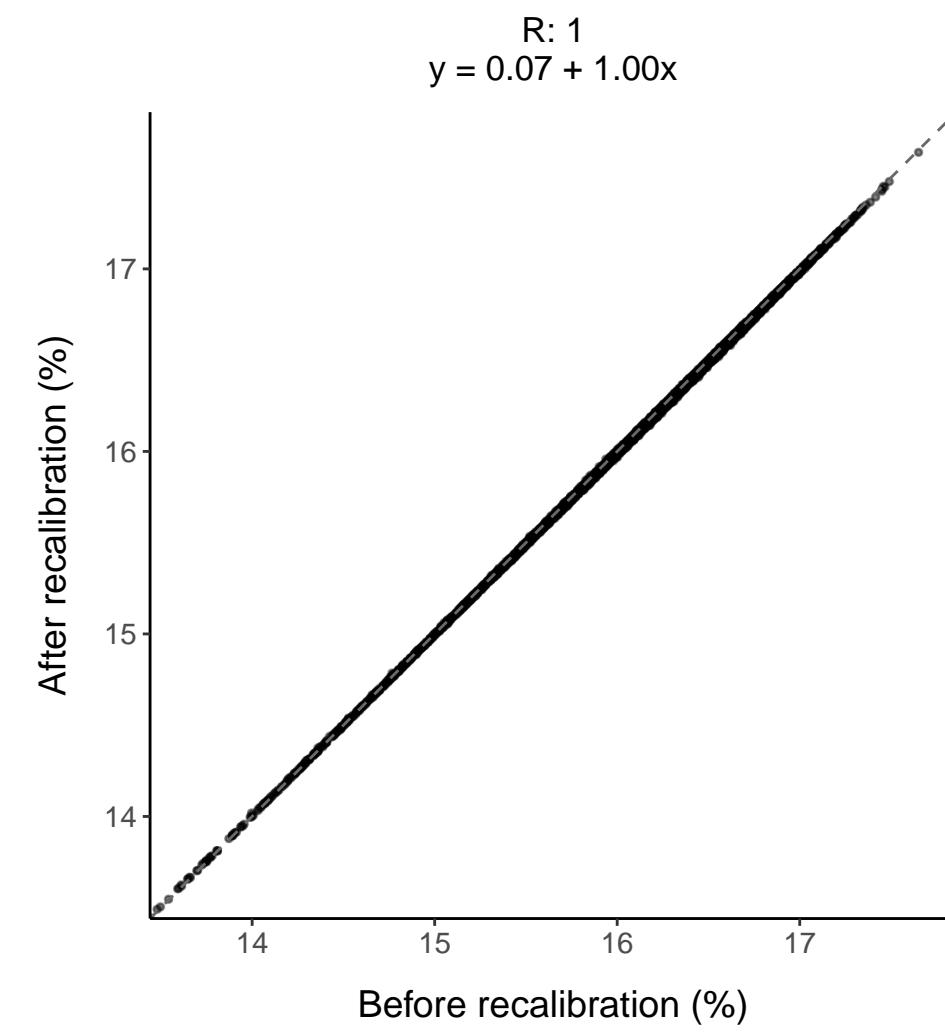
**XS\_VLDL\_C\_pct**



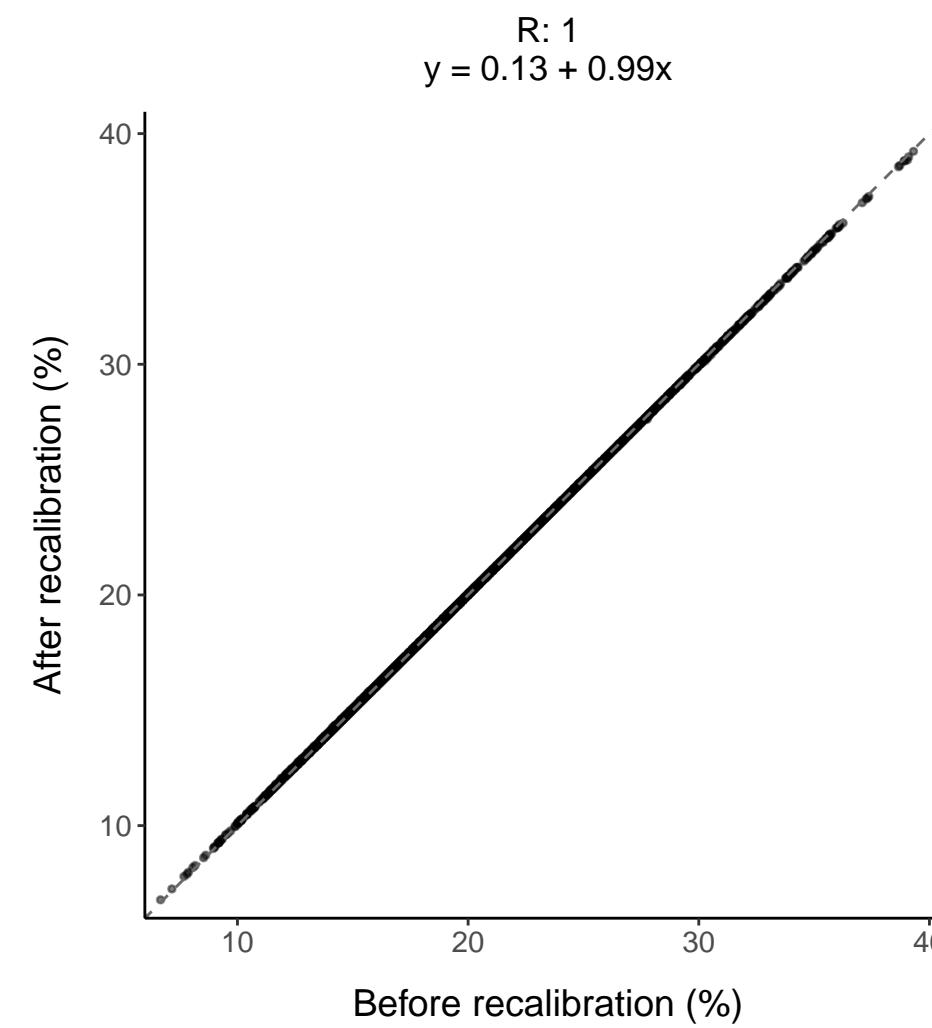
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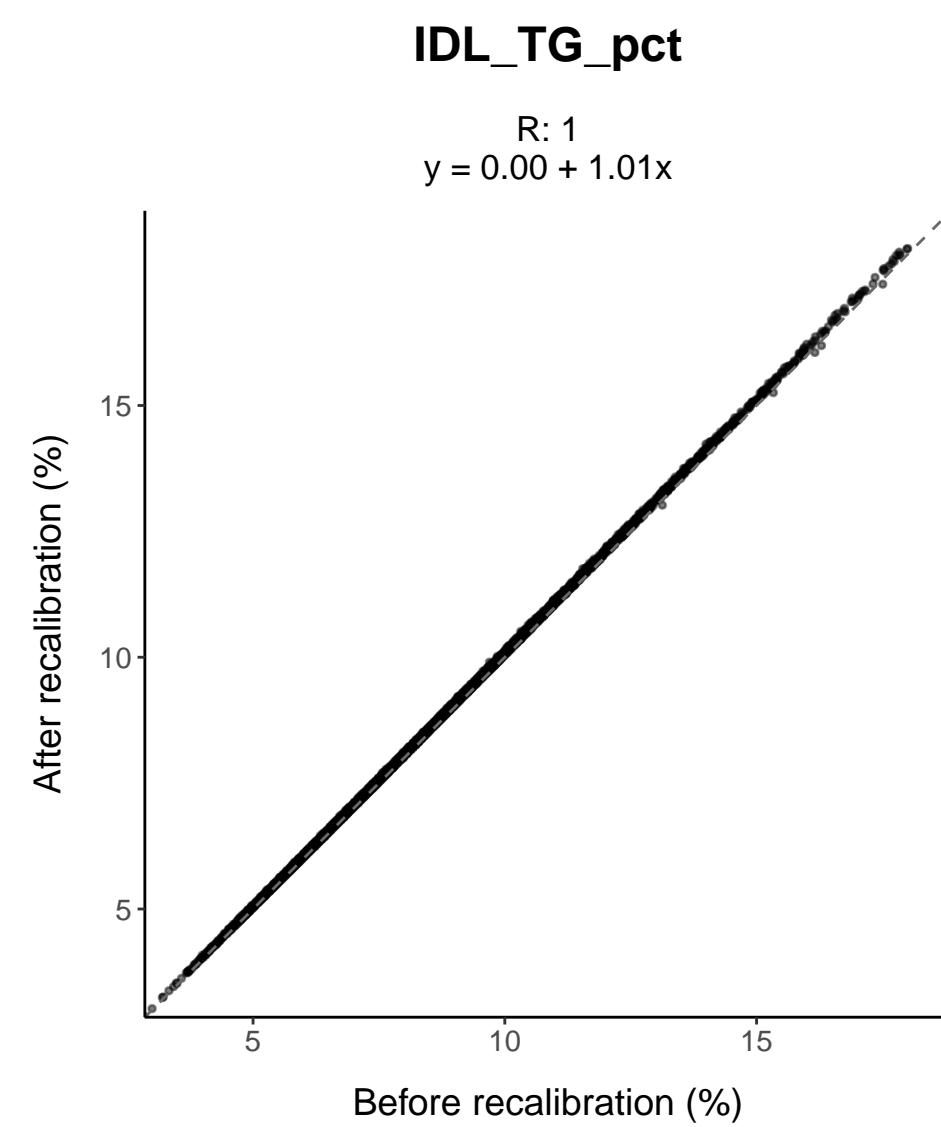
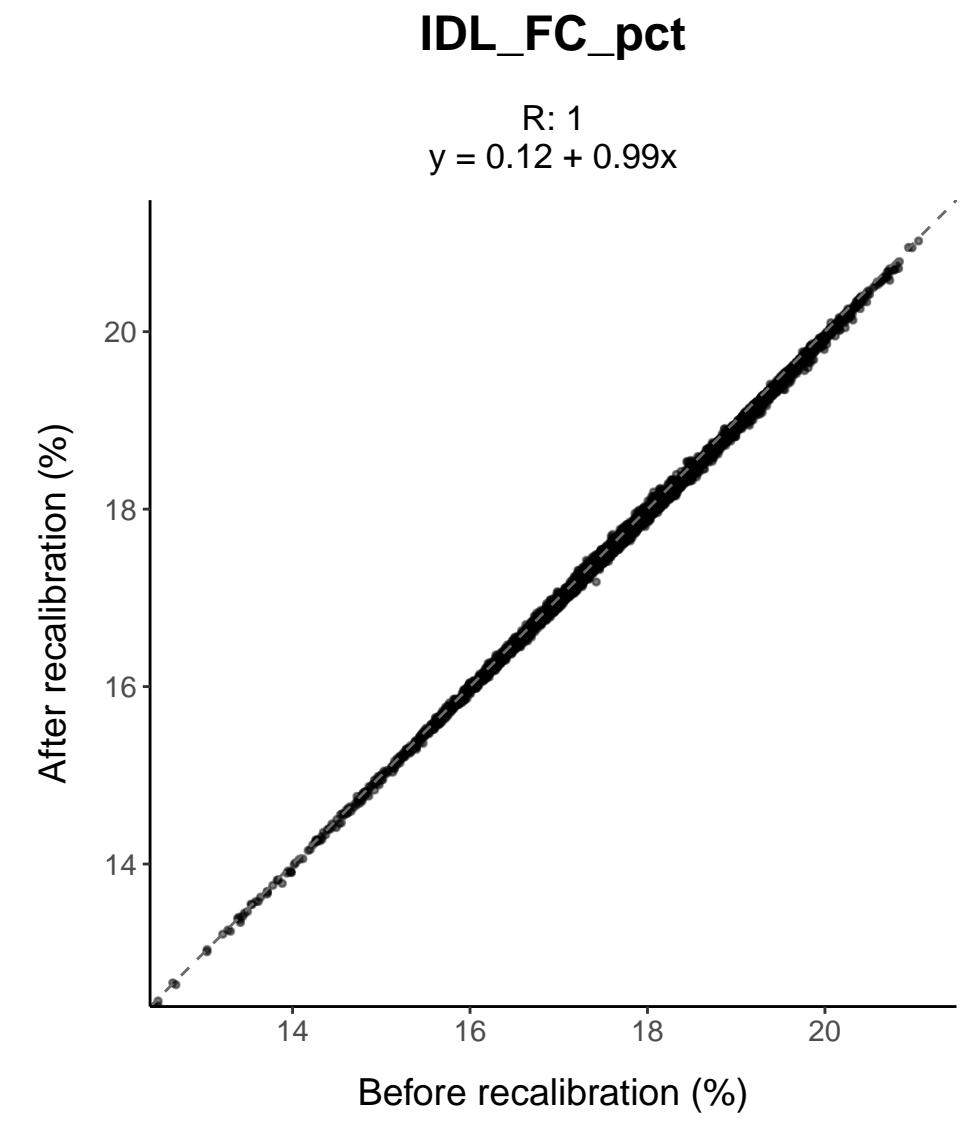
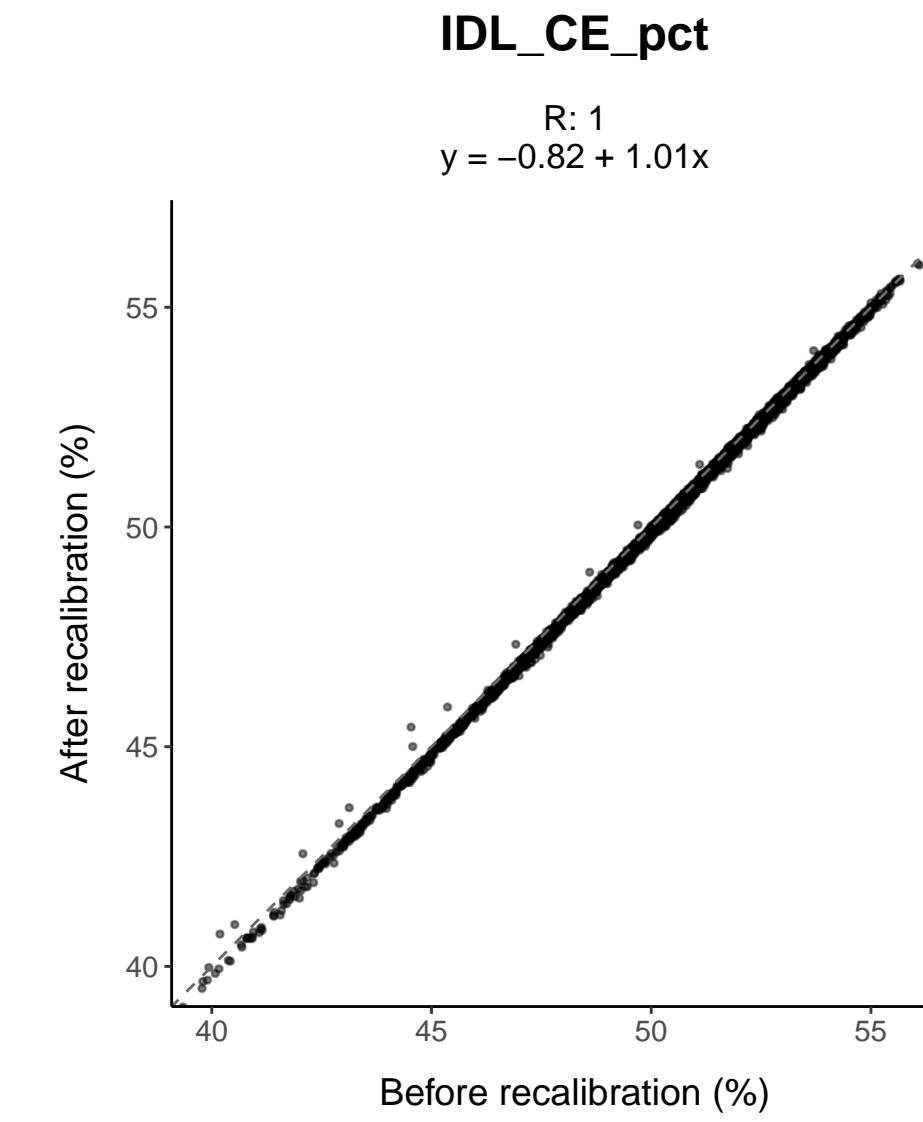
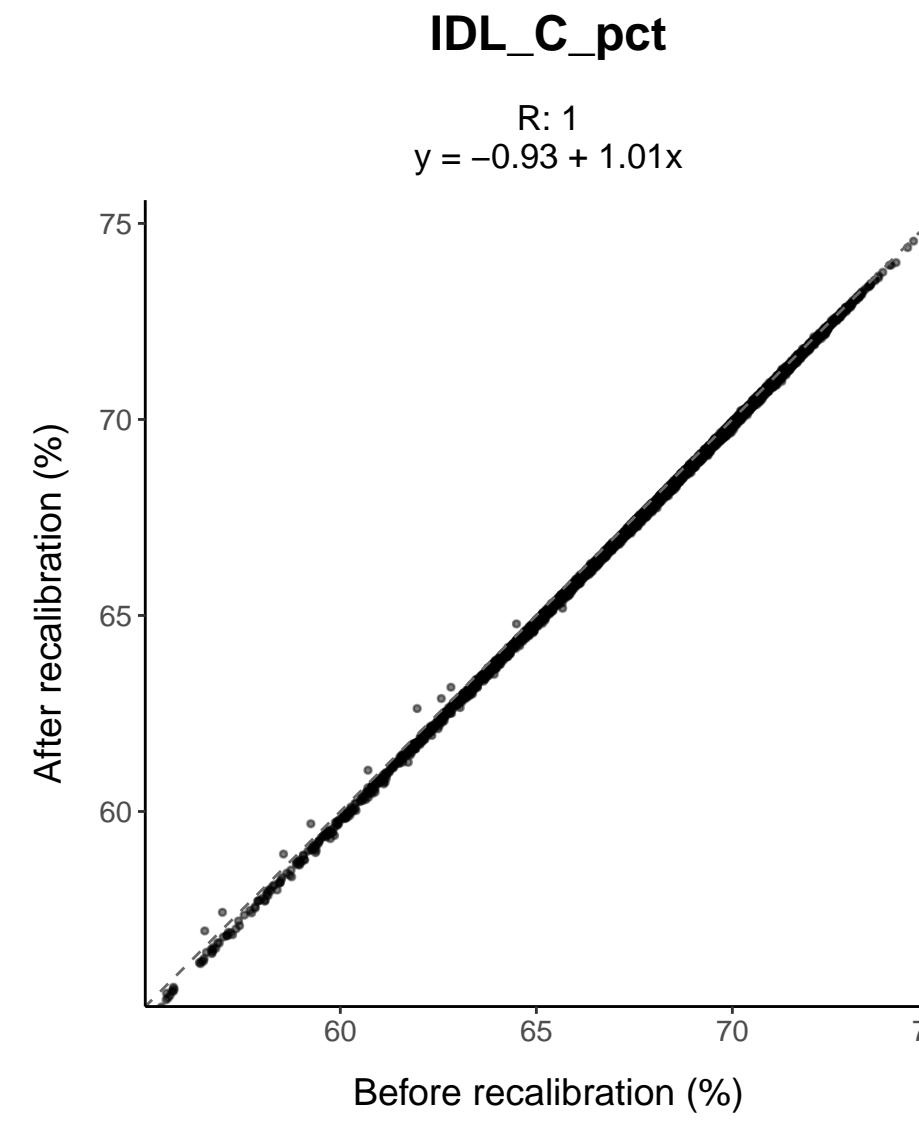
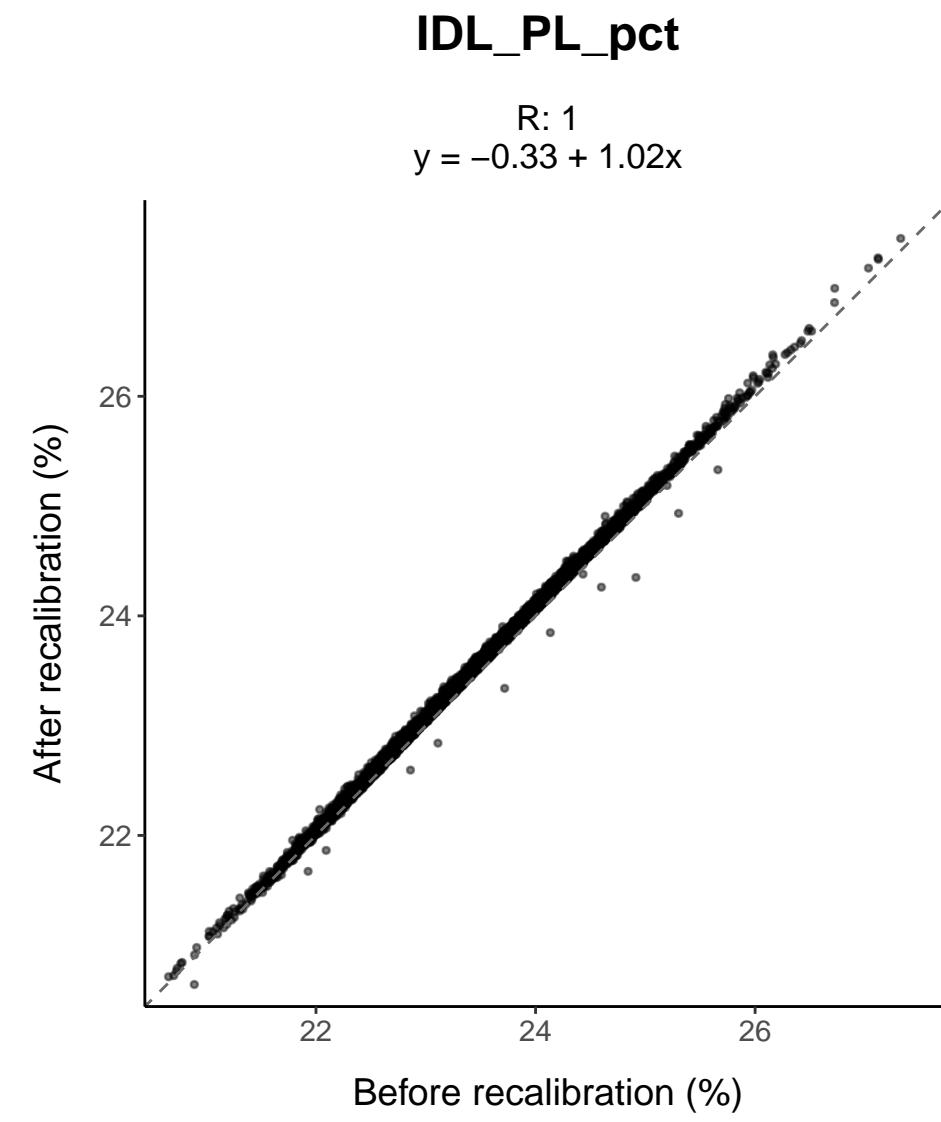
**XS\_VLDL\_FC\_pct**



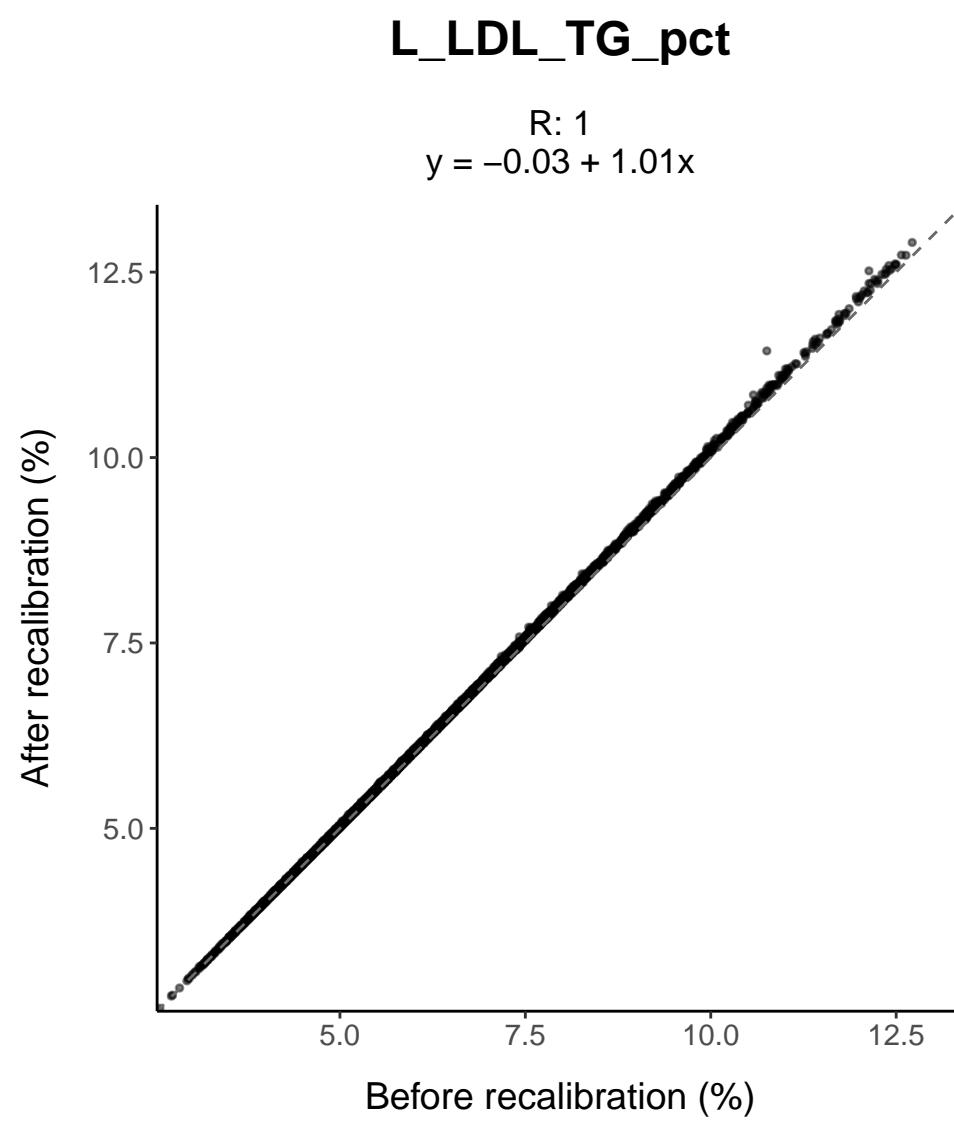
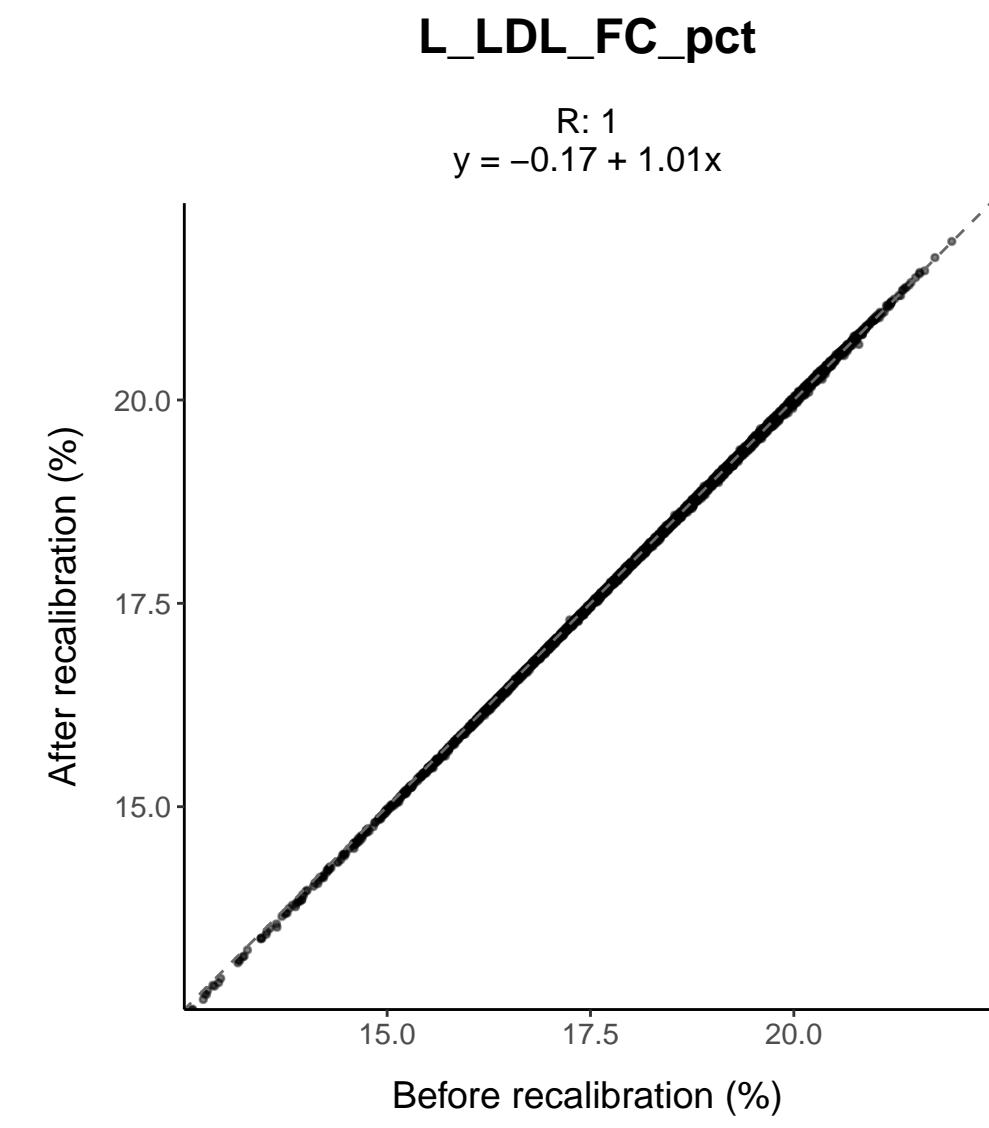
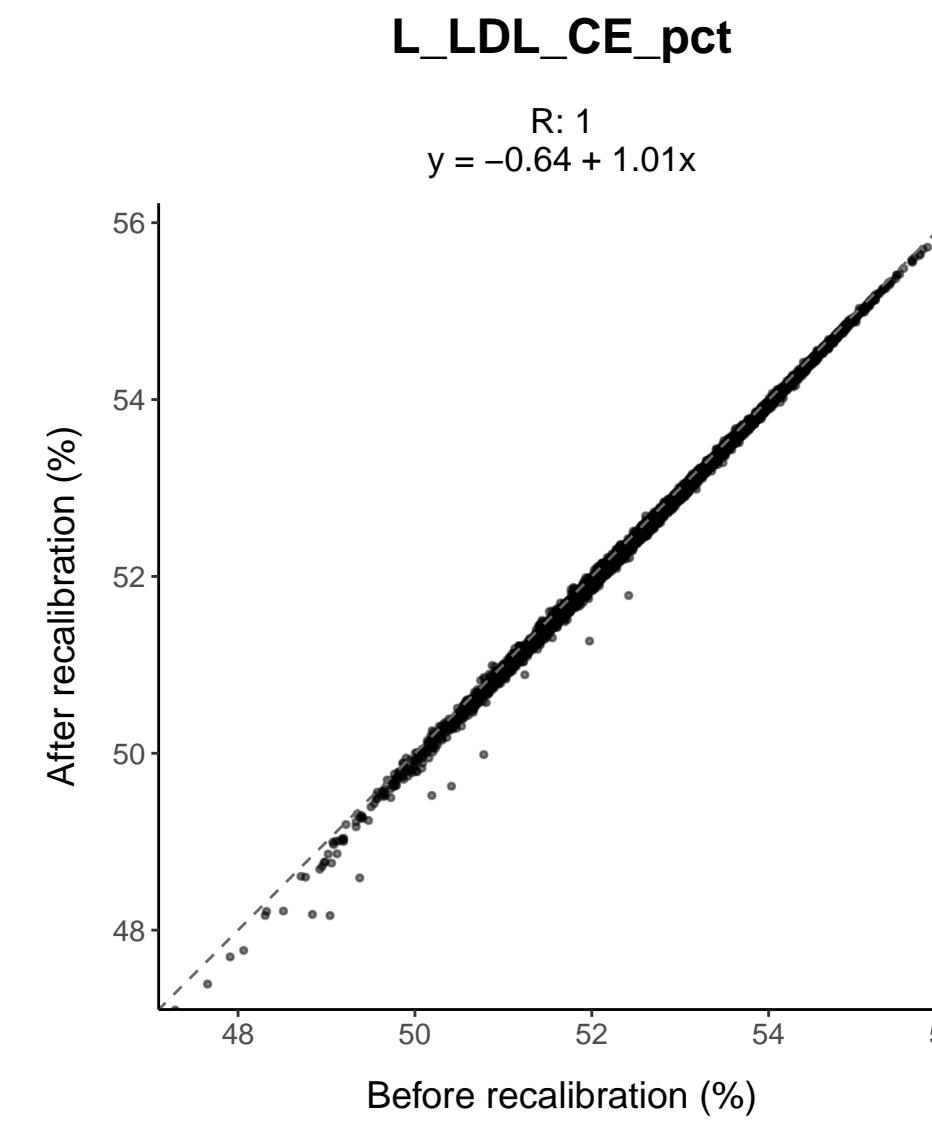
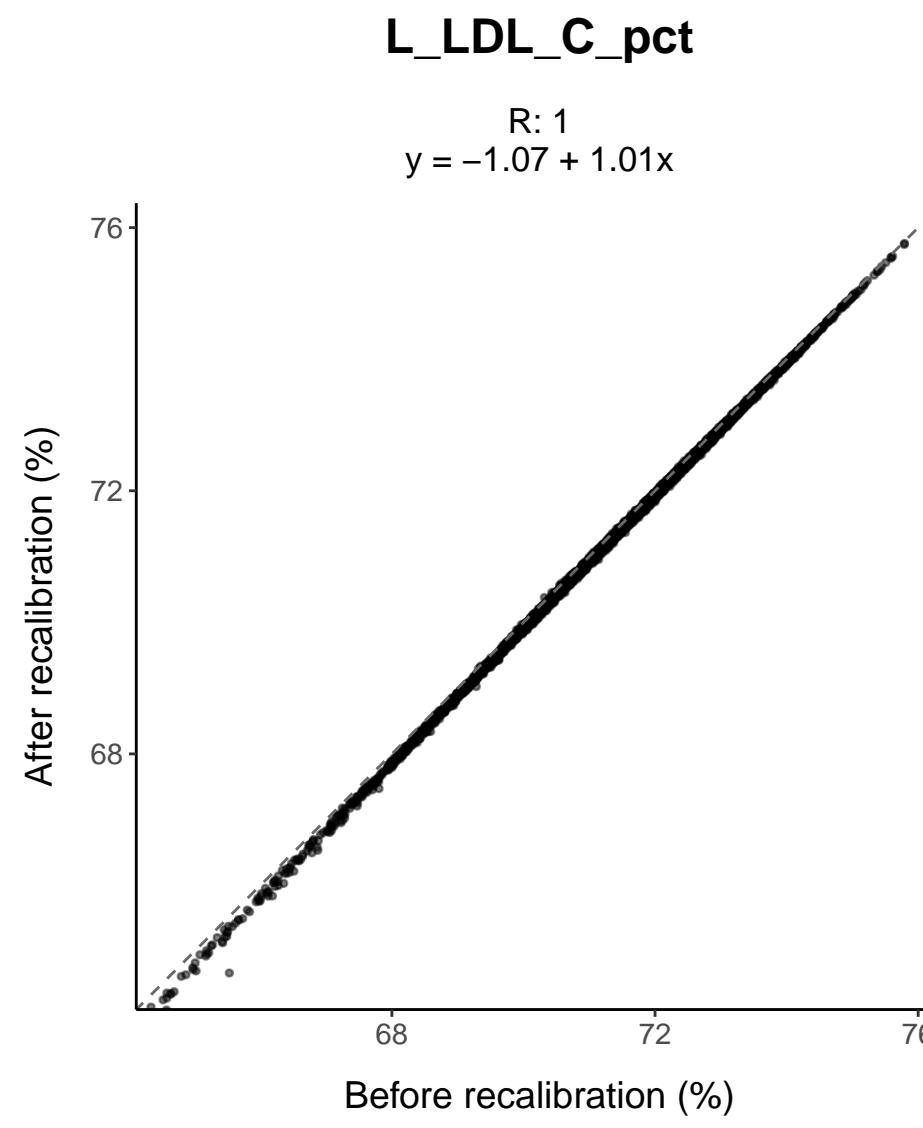
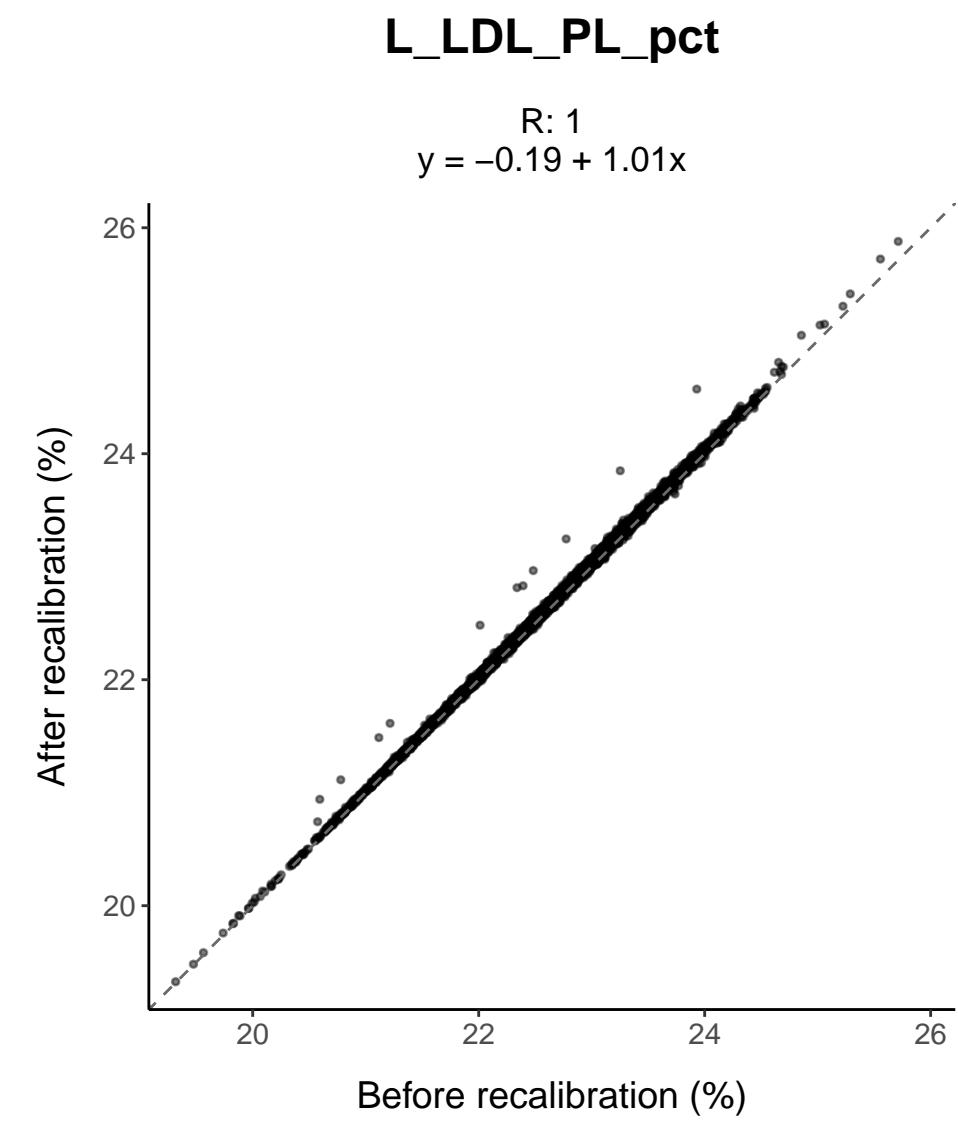
**XS\_VLDL\_TG\_pct**



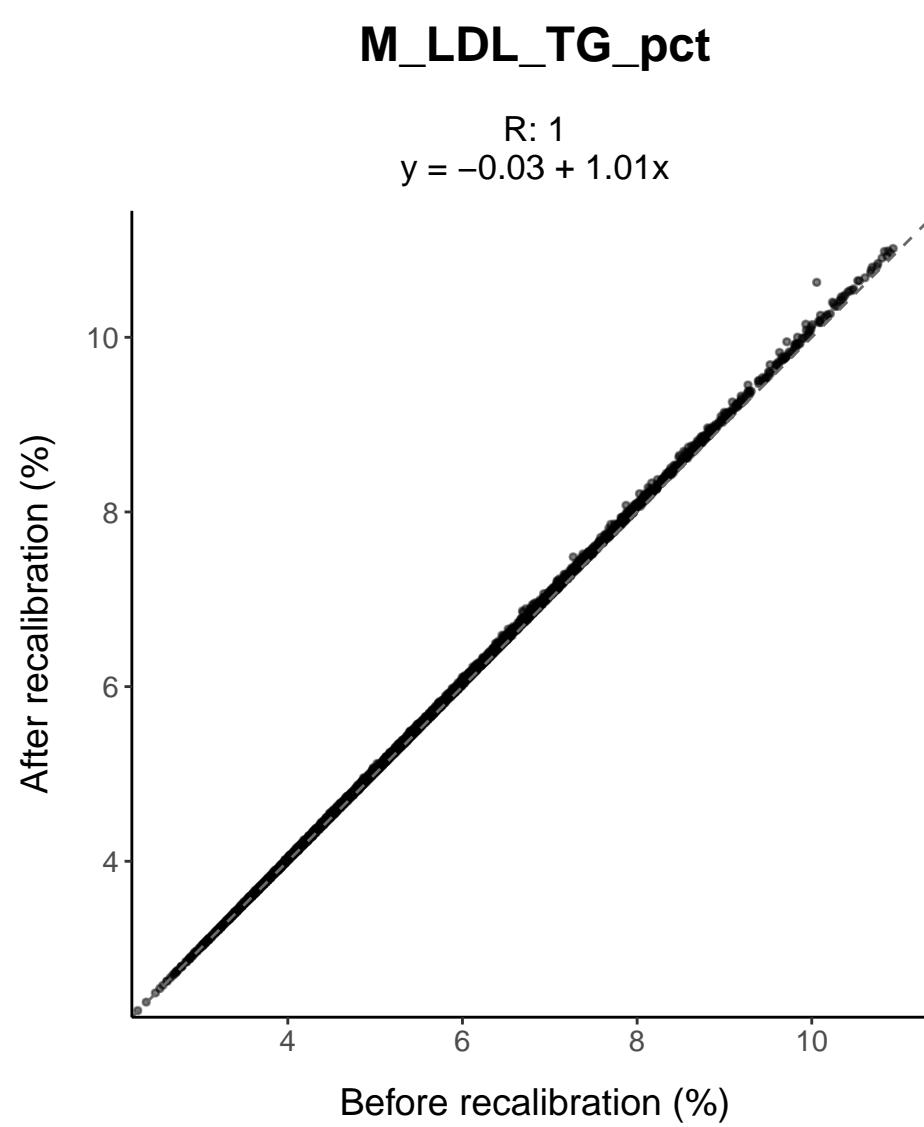
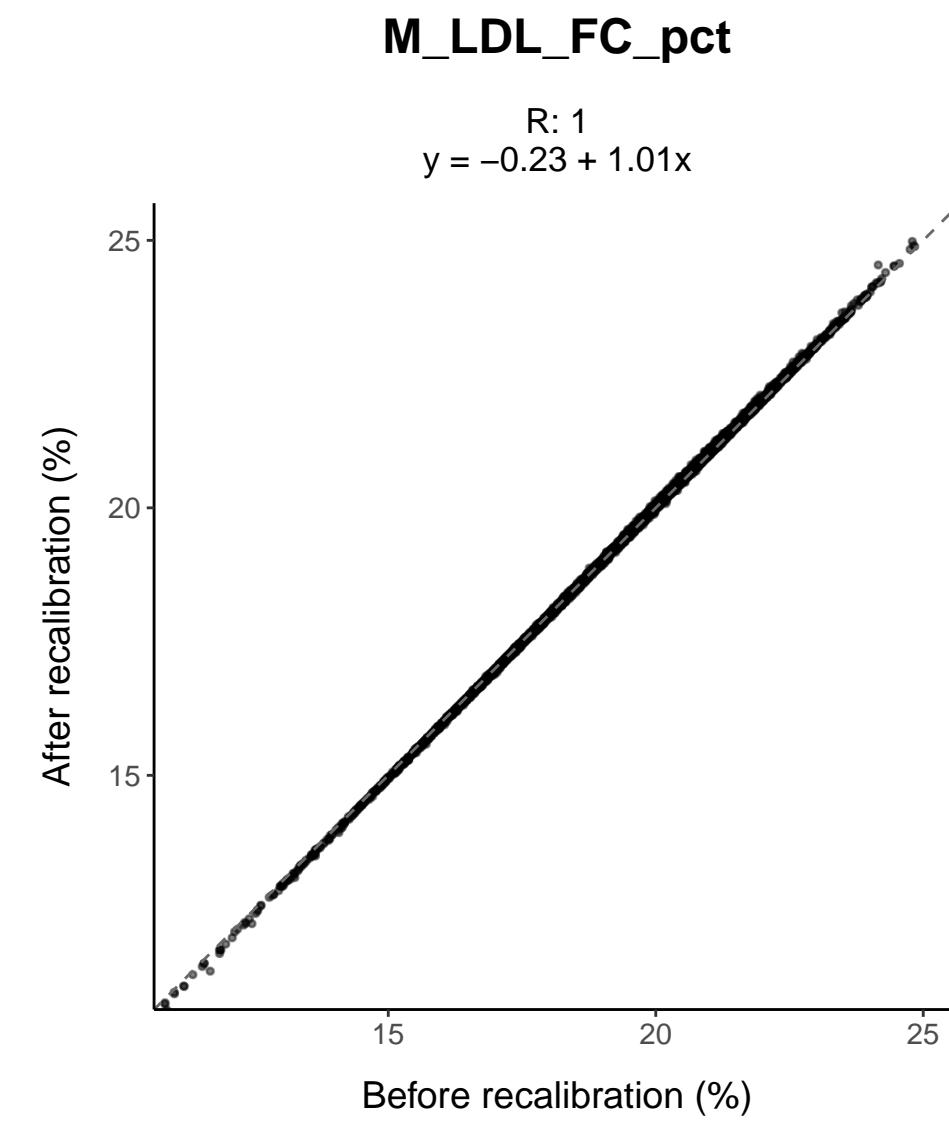
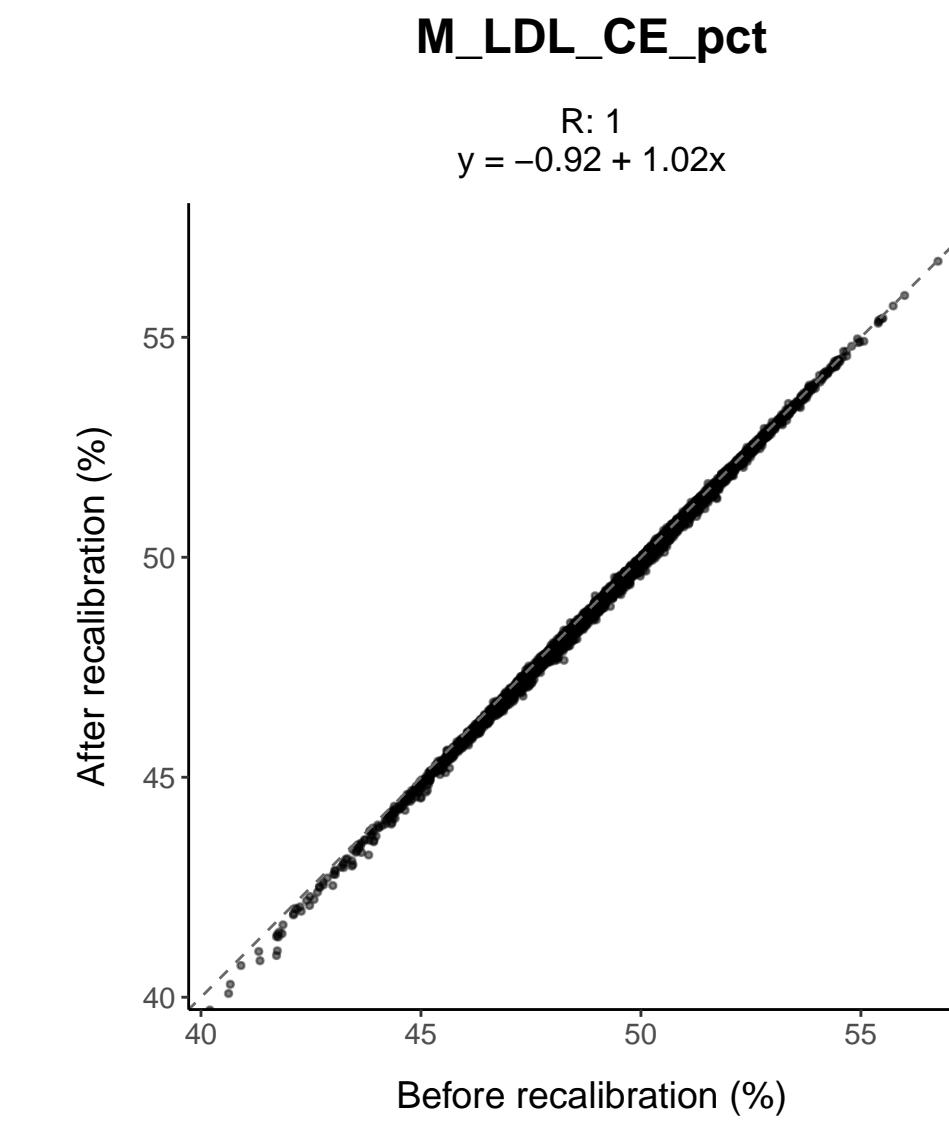
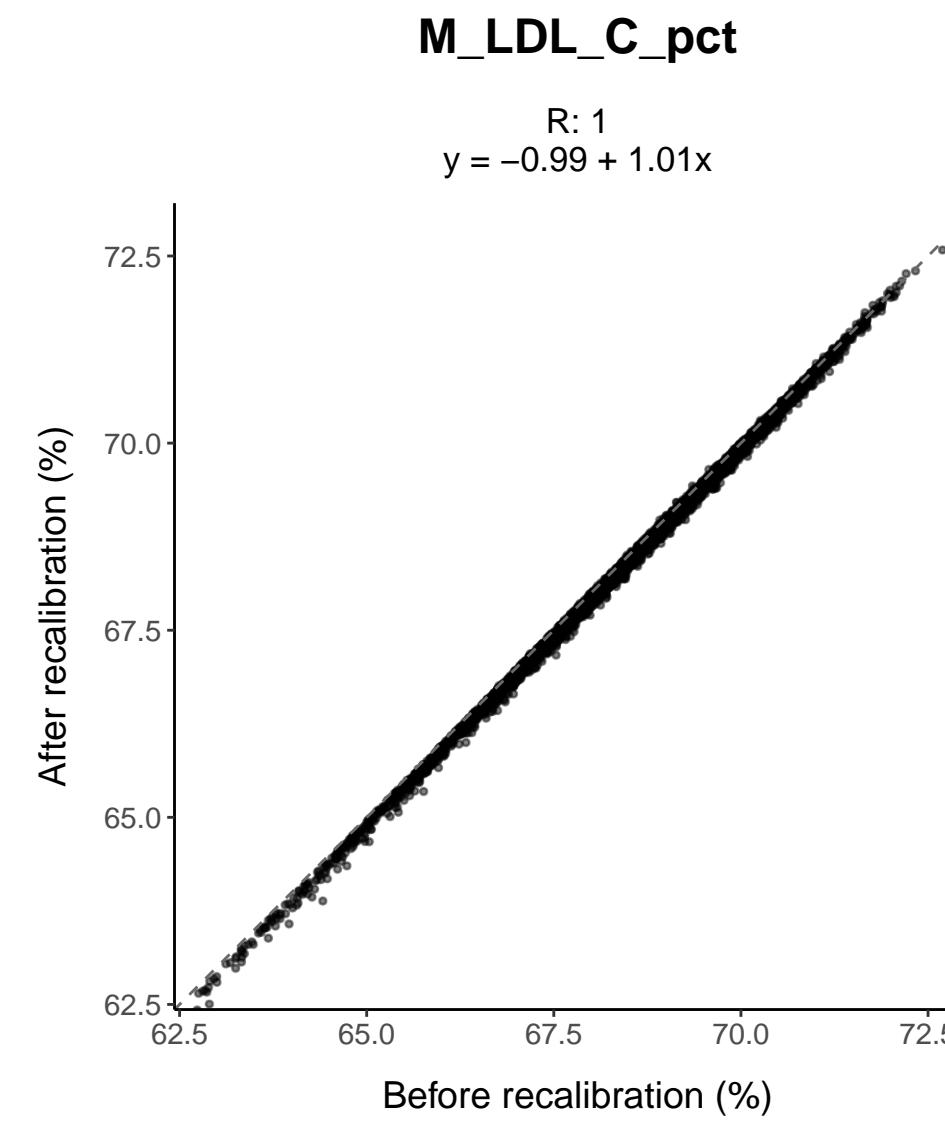
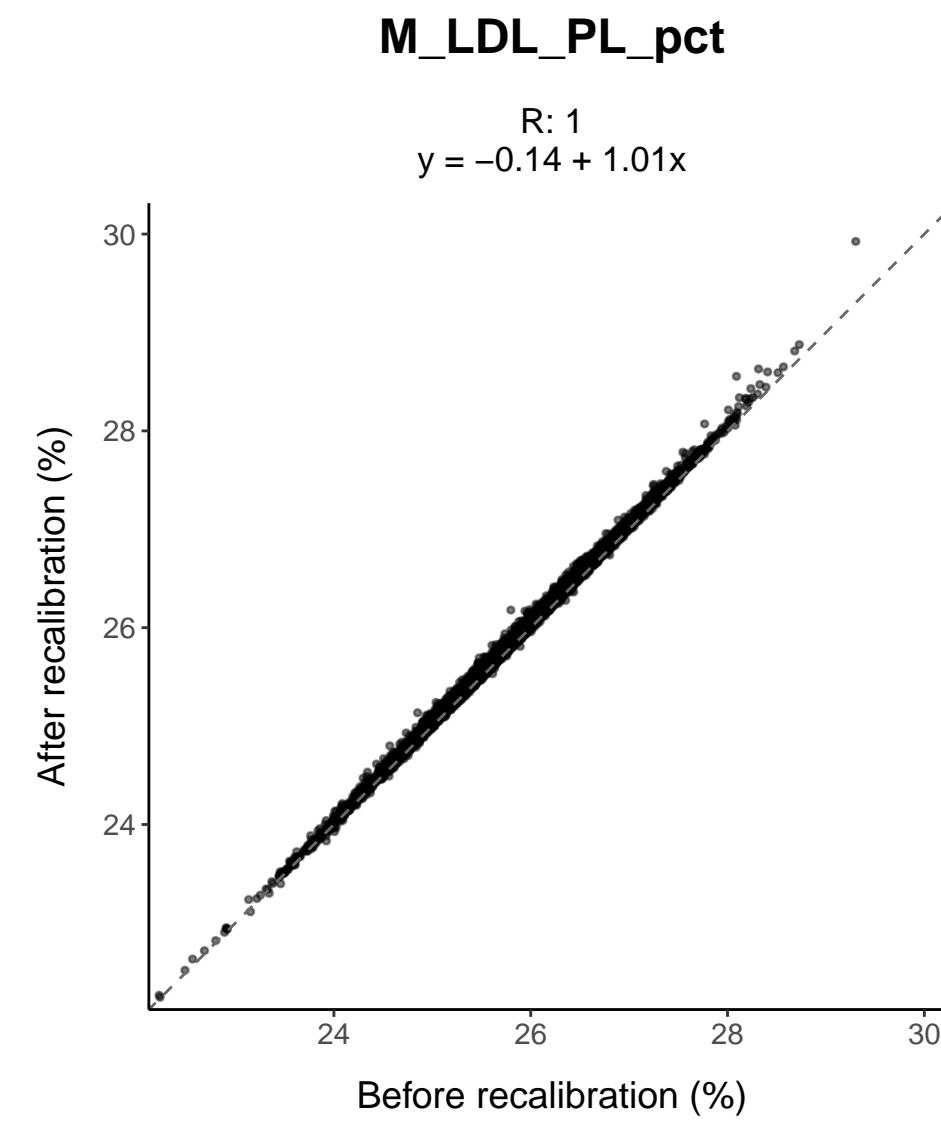
## IDL ratios



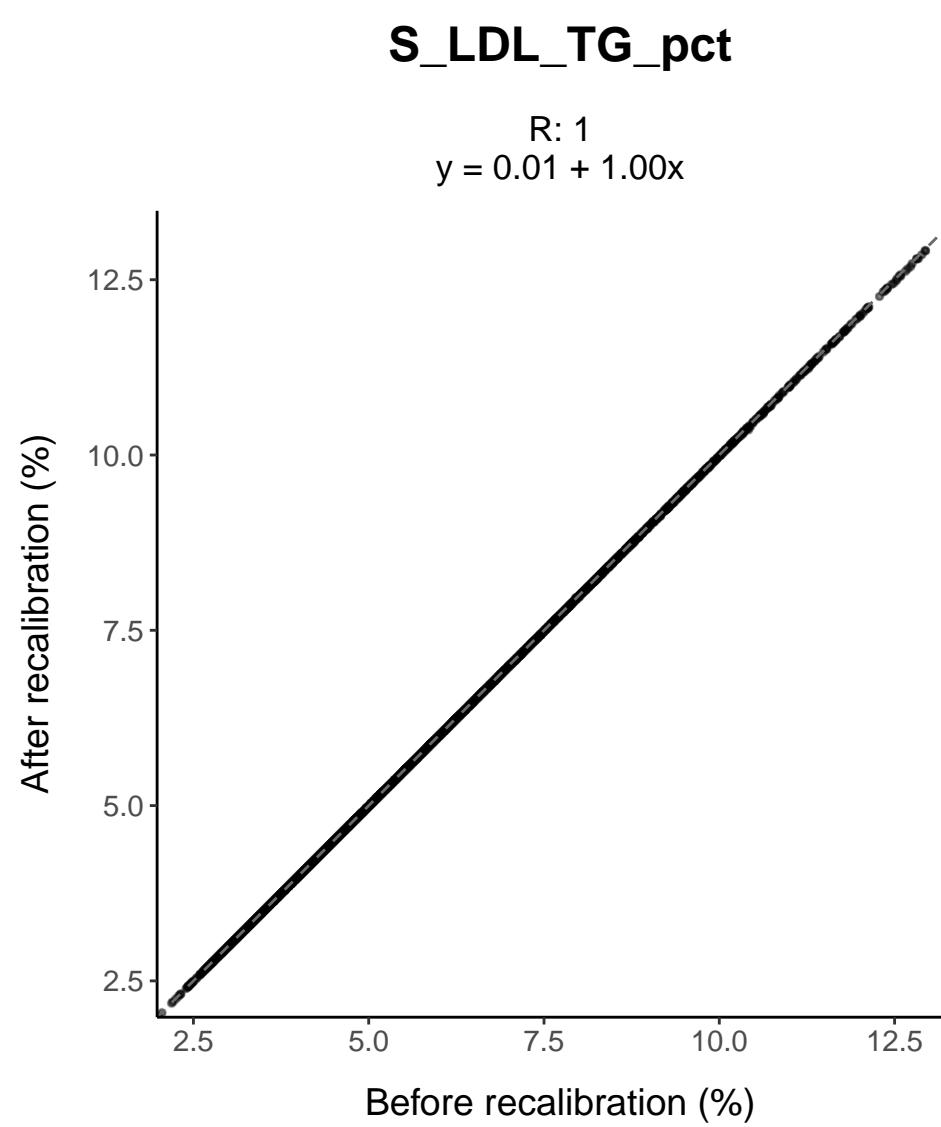
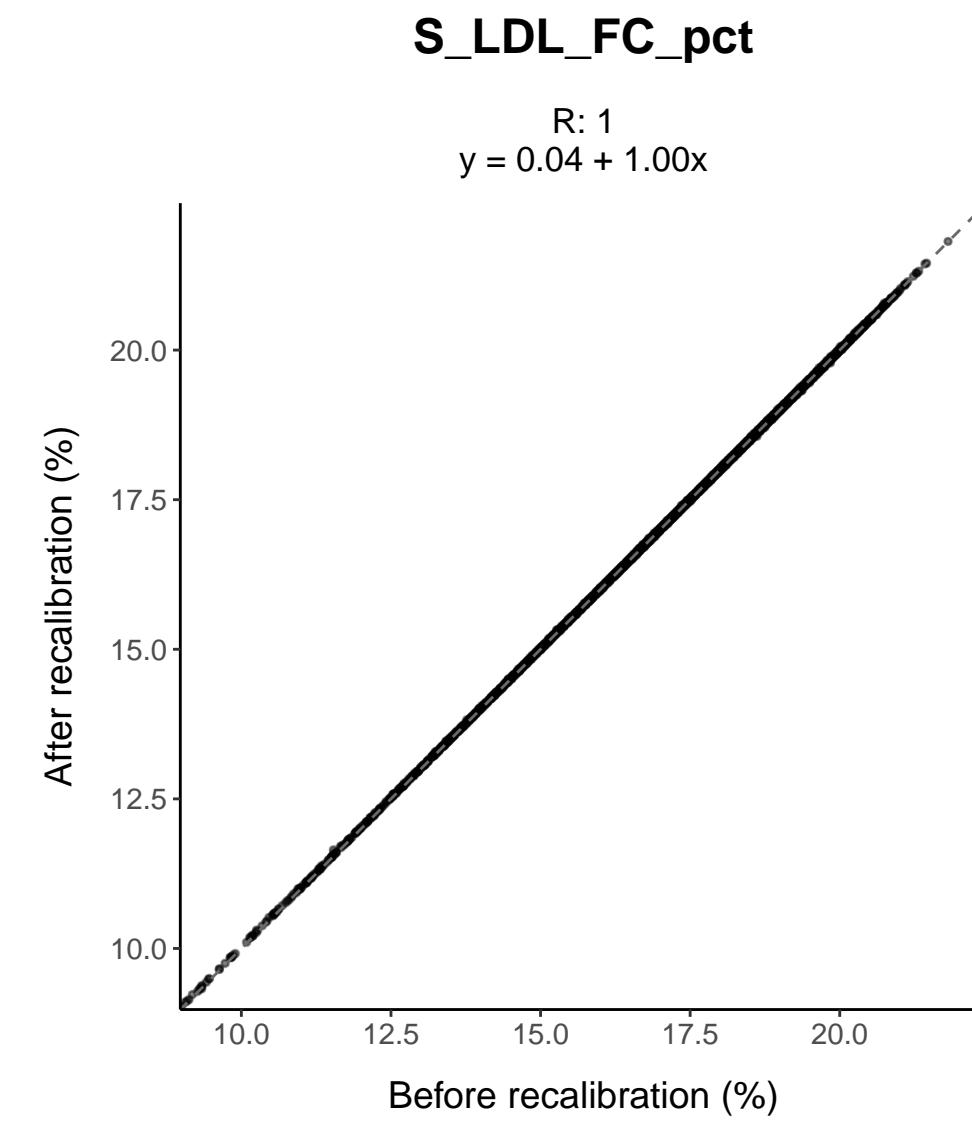
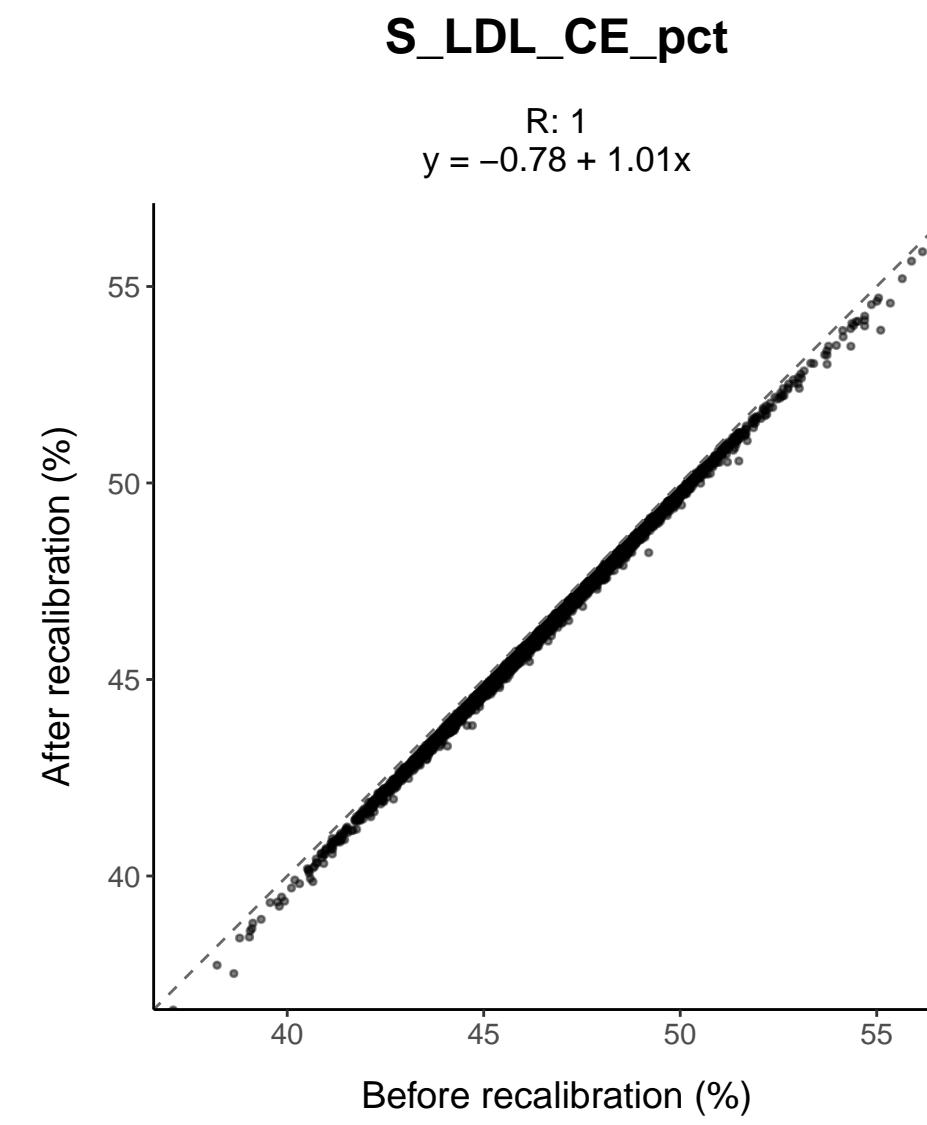
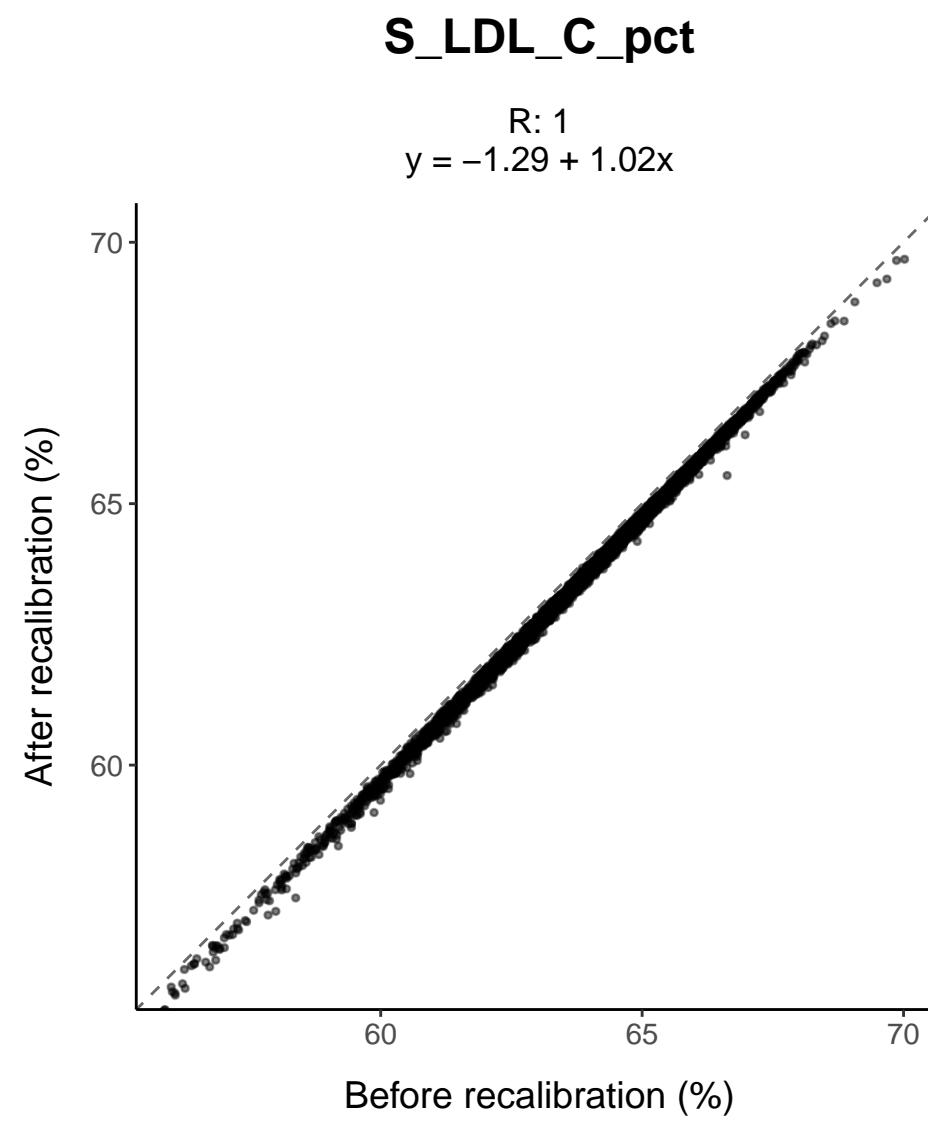
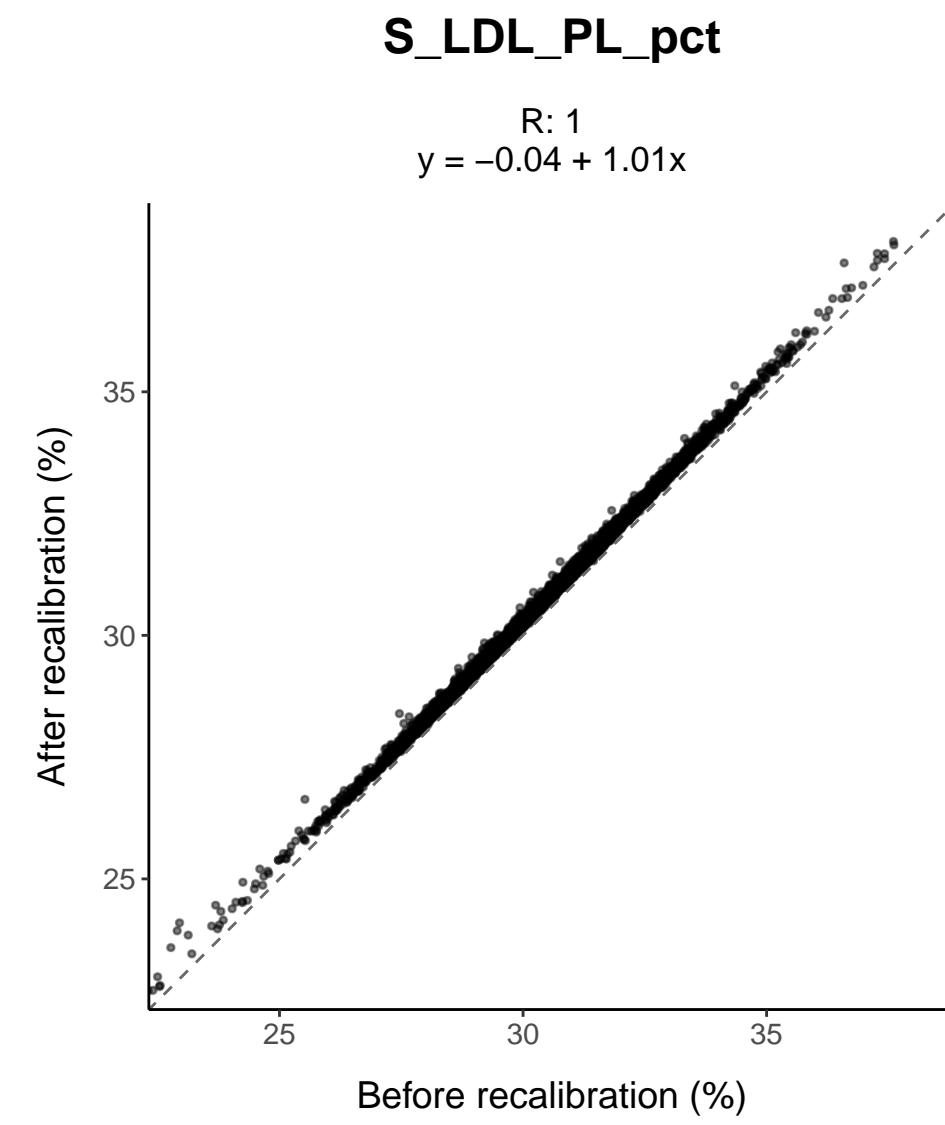
## Large LDL ratios



## Medium LDL ratios

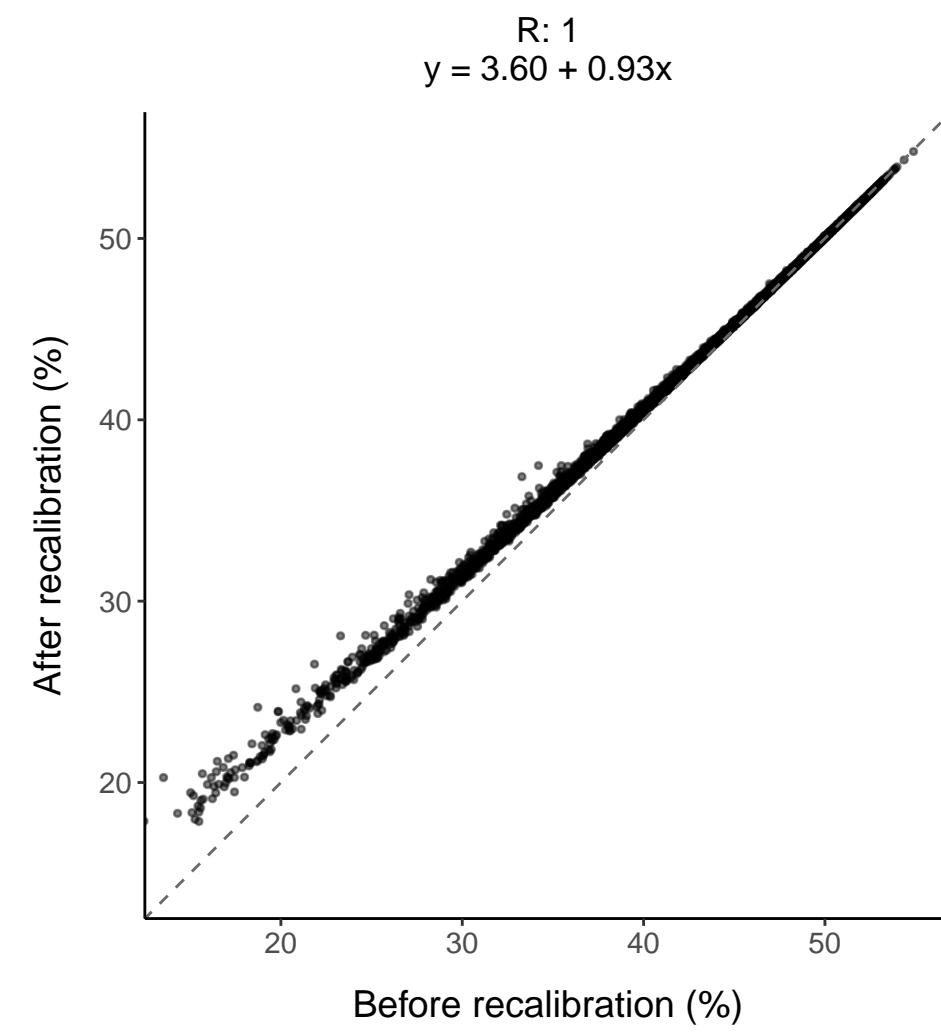


## Small LDL ratios

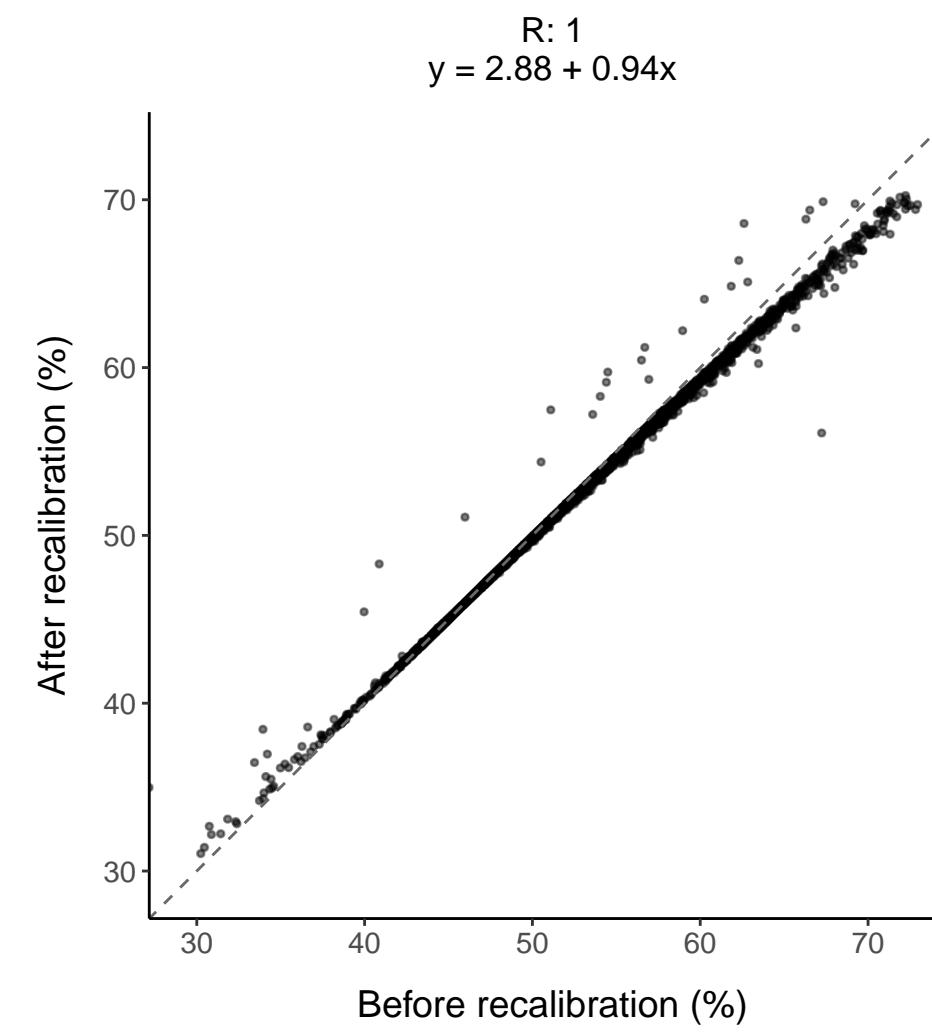


## Very large HDL ratios

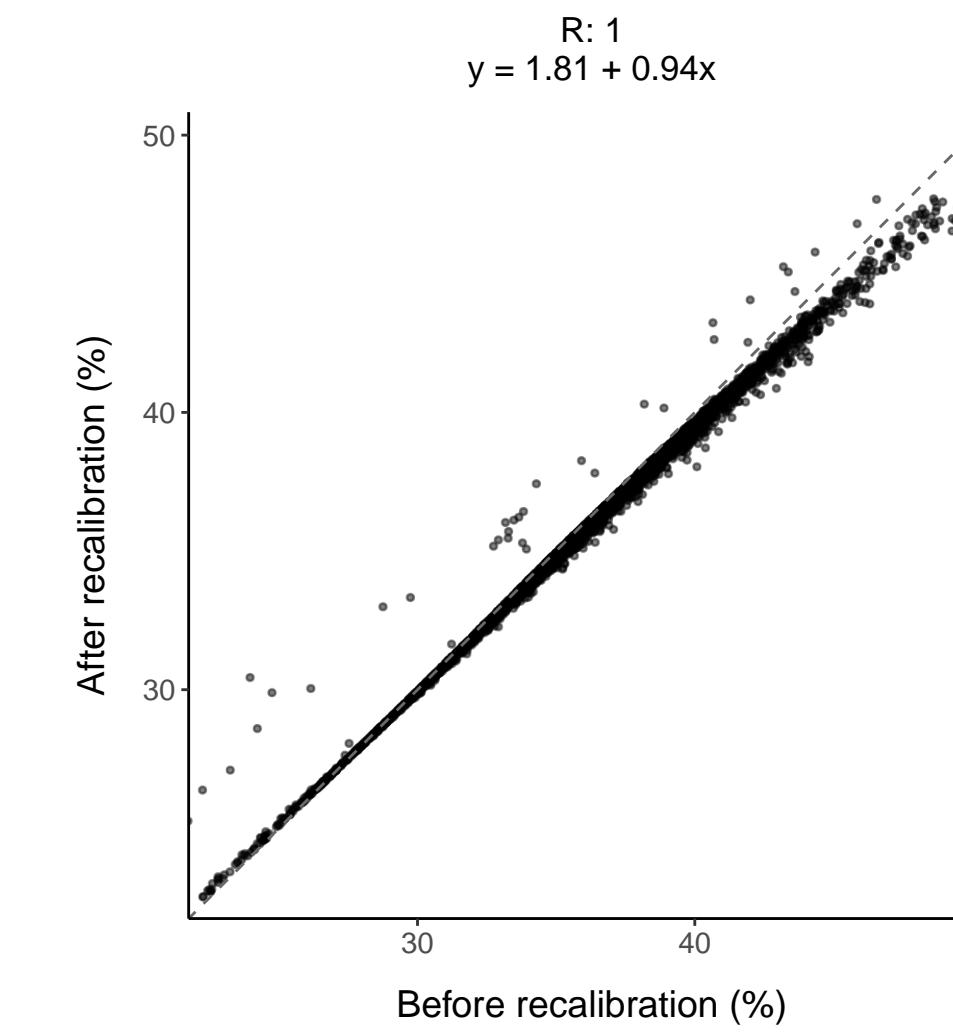
**XL\_HDL\_PL\_pct**



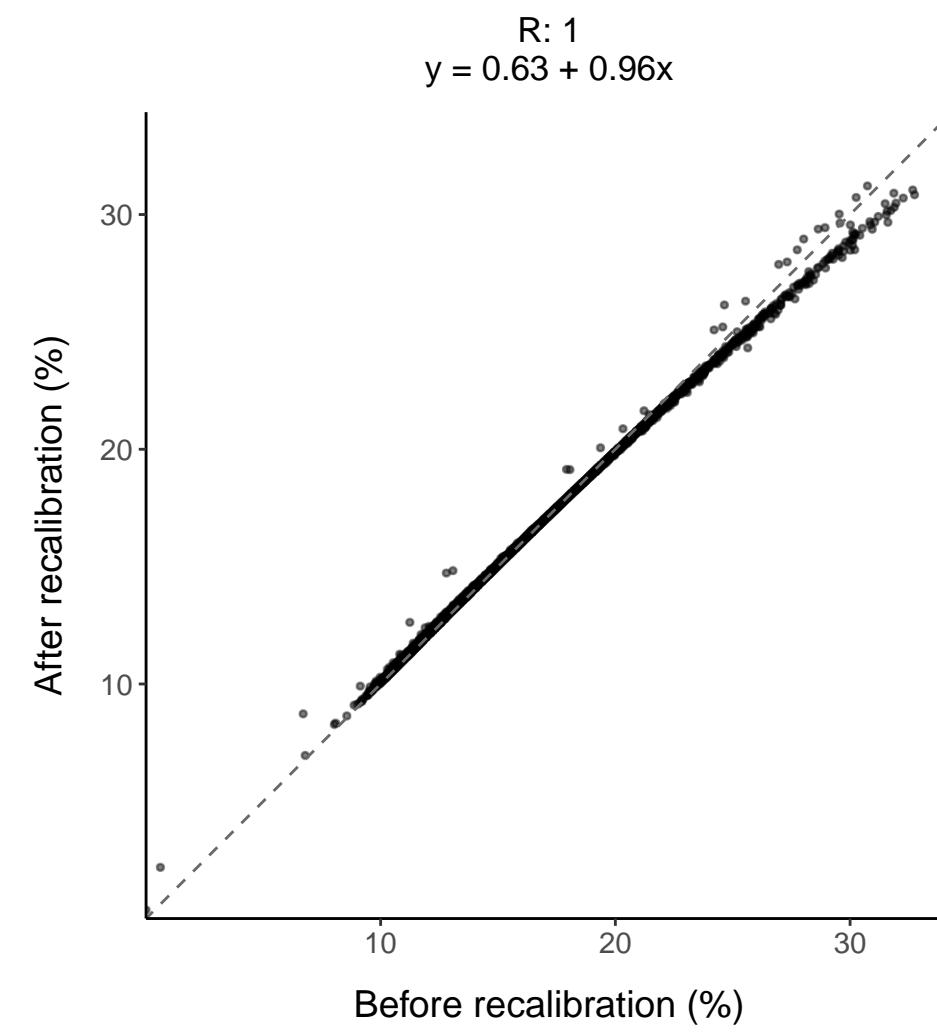
**XL\_HDL\_C\_pct**



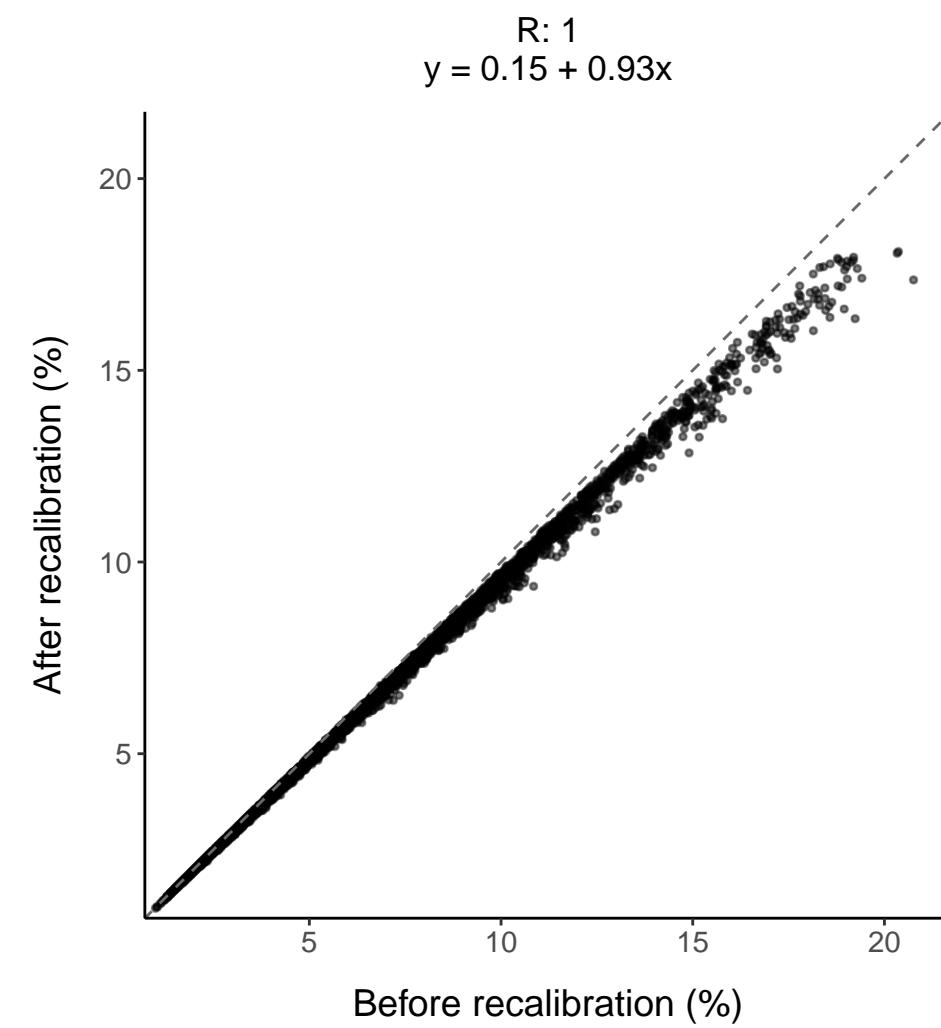
**XL\_HDL\_CE\_pct**



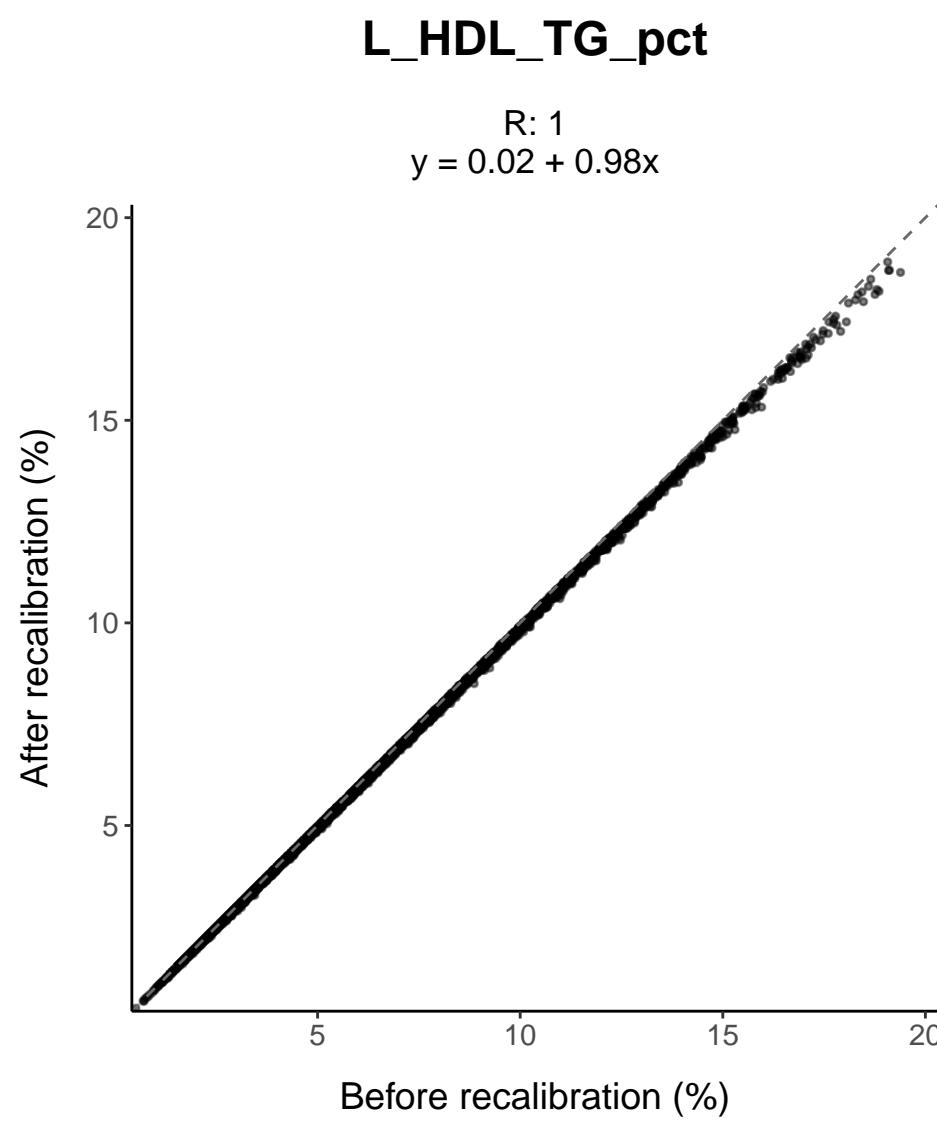
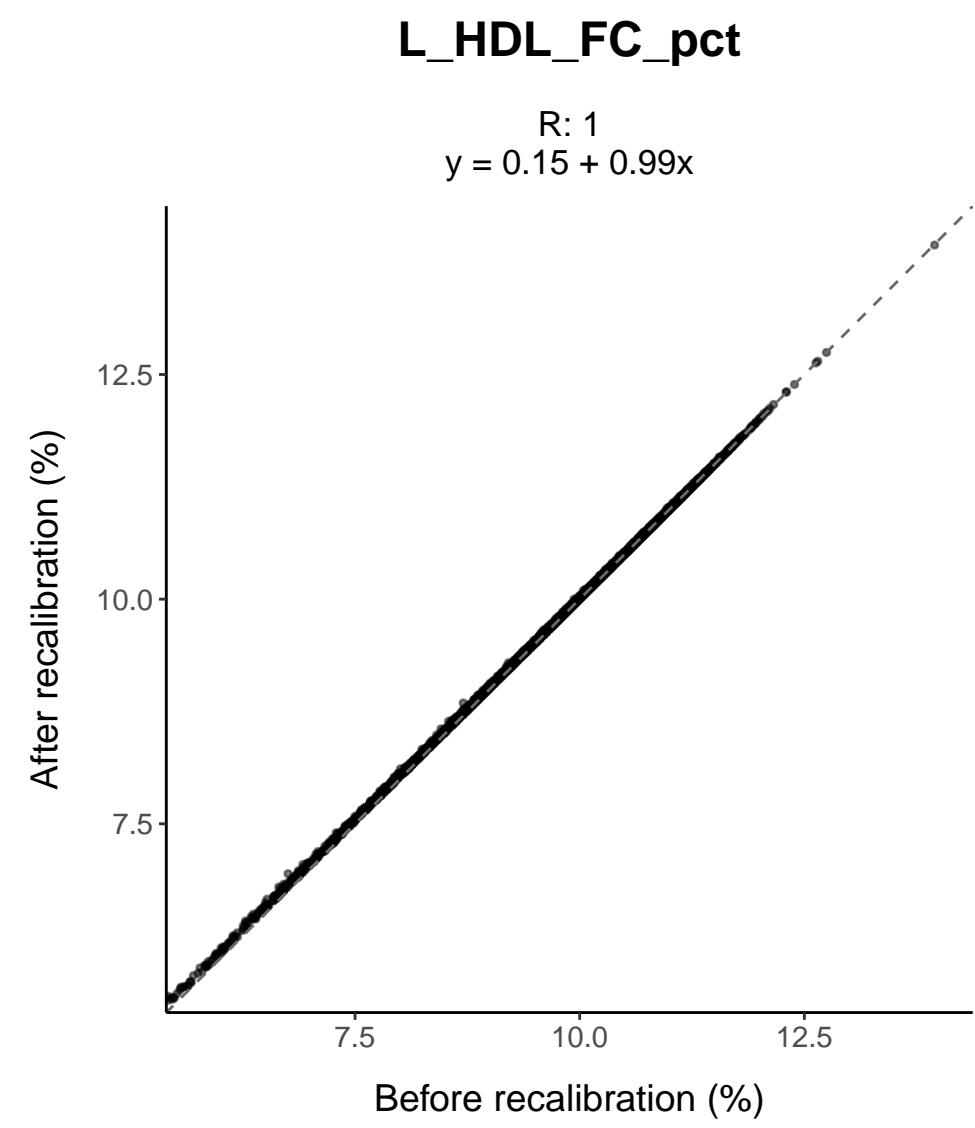
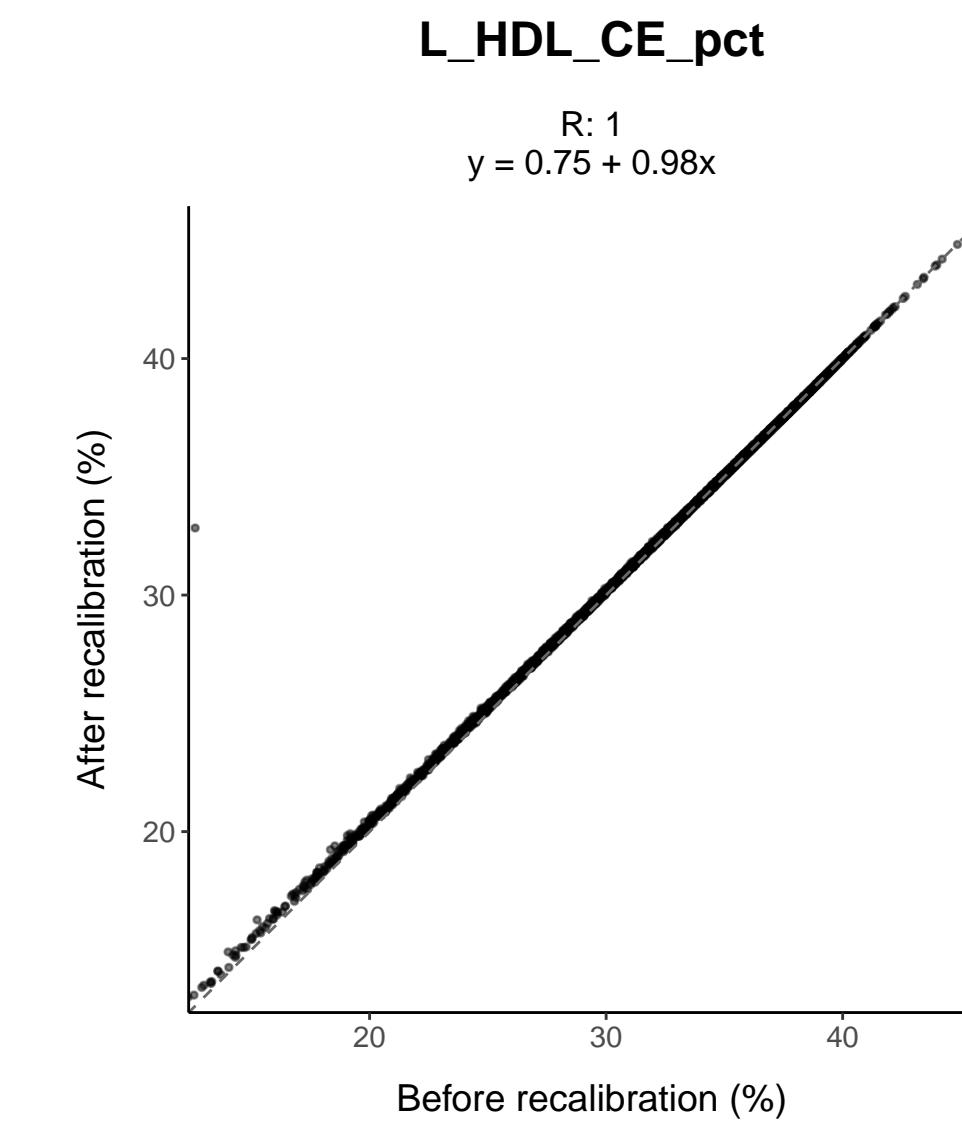
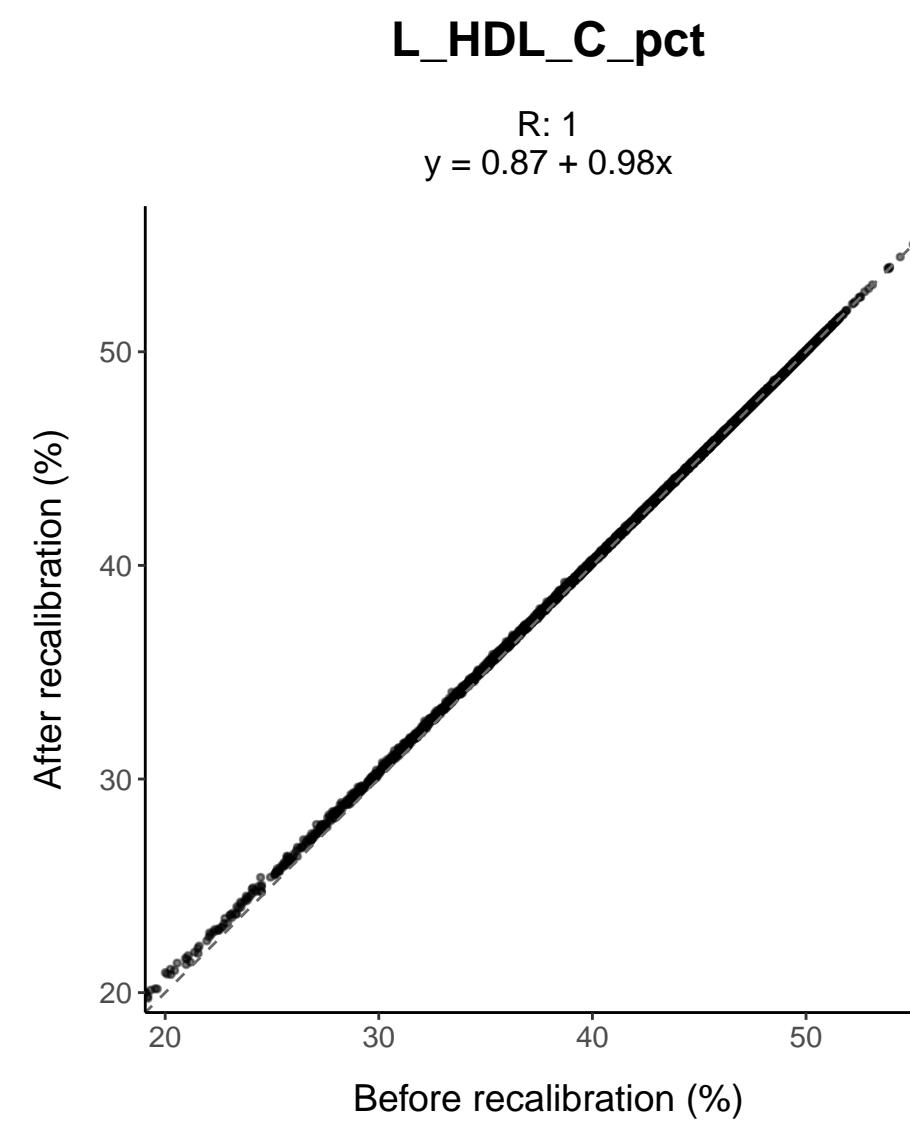
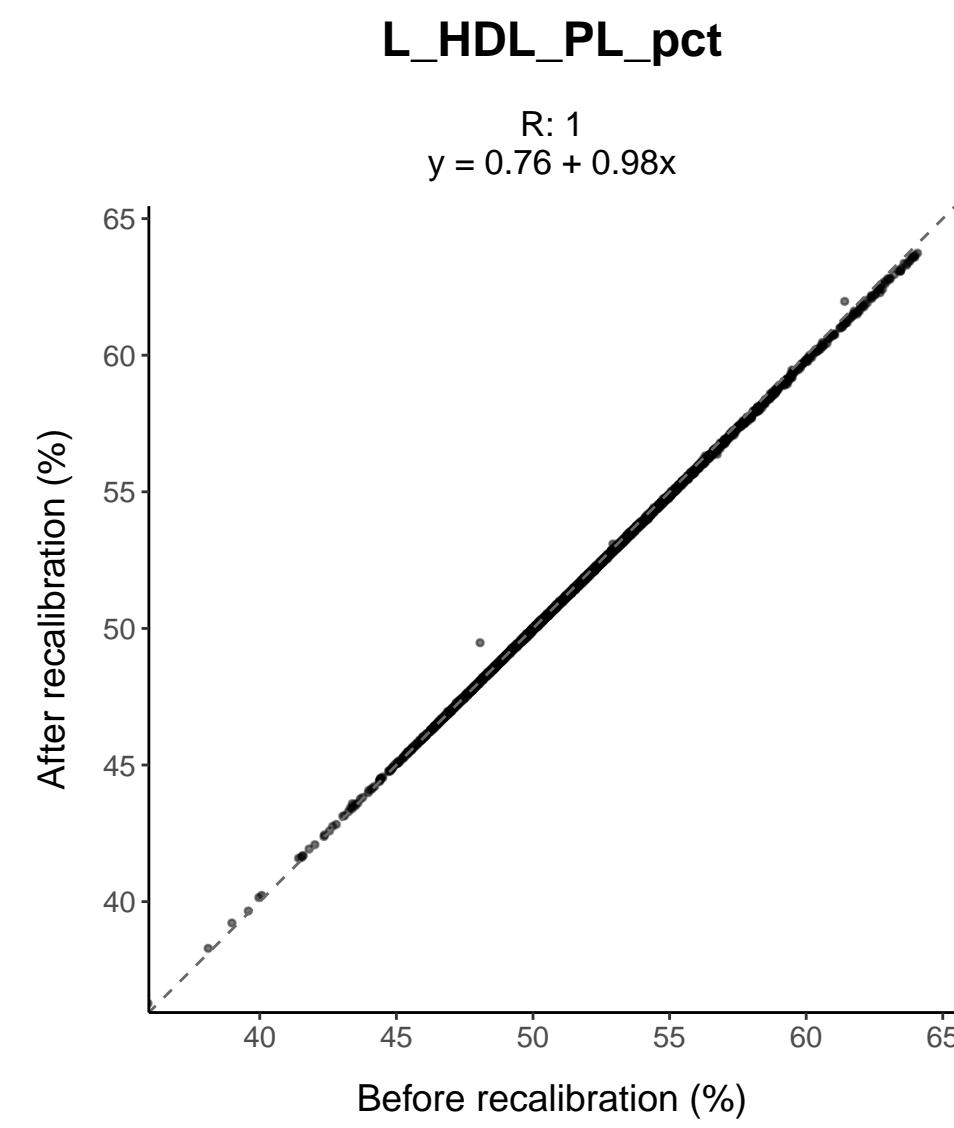
**XL\_HDL\_FC\_pct**



**XL\_HDL\_TG\_pct**

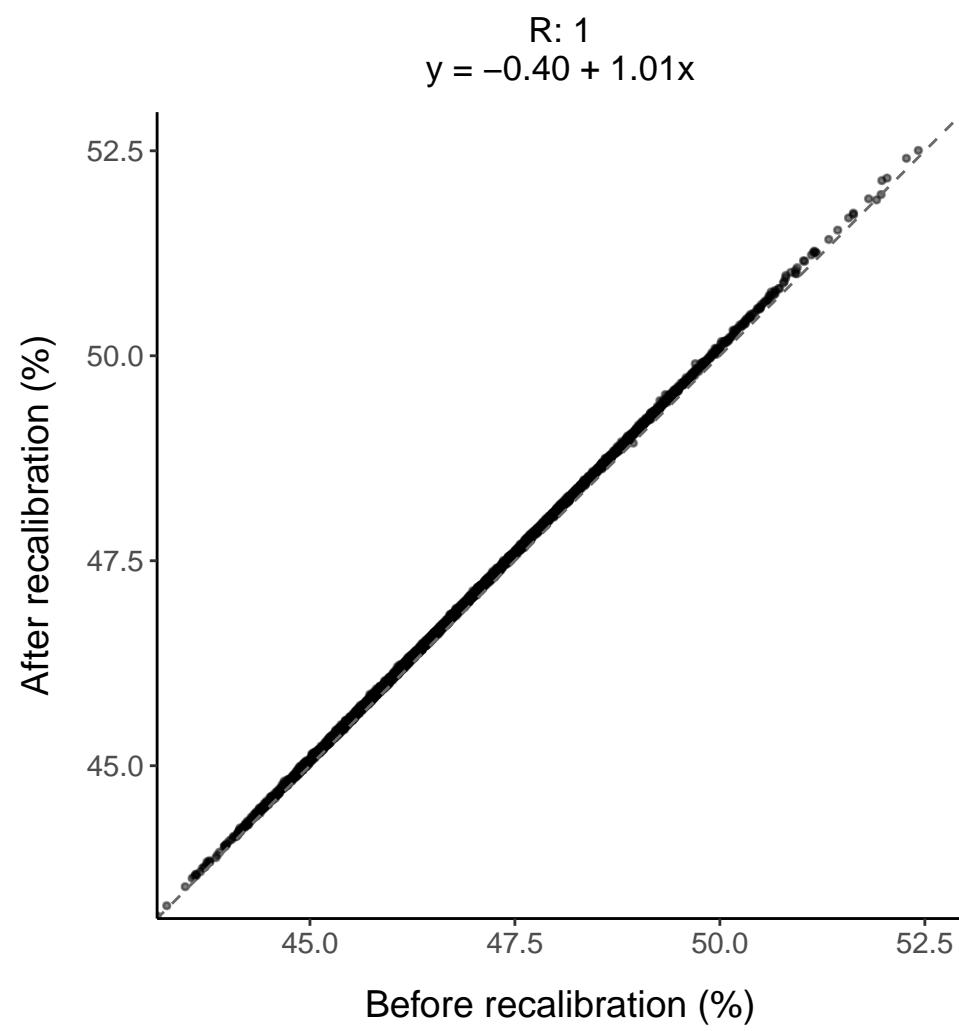


## Large HDL ratios

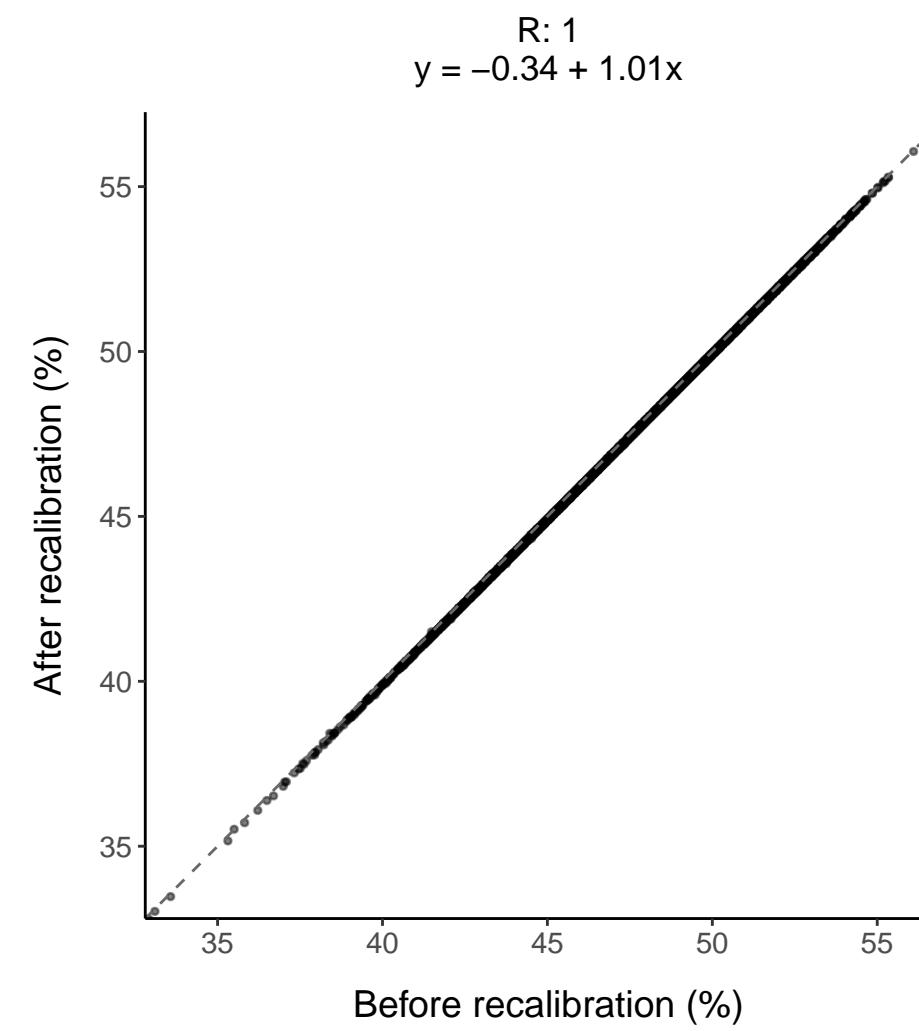


## Medium HDL ratios

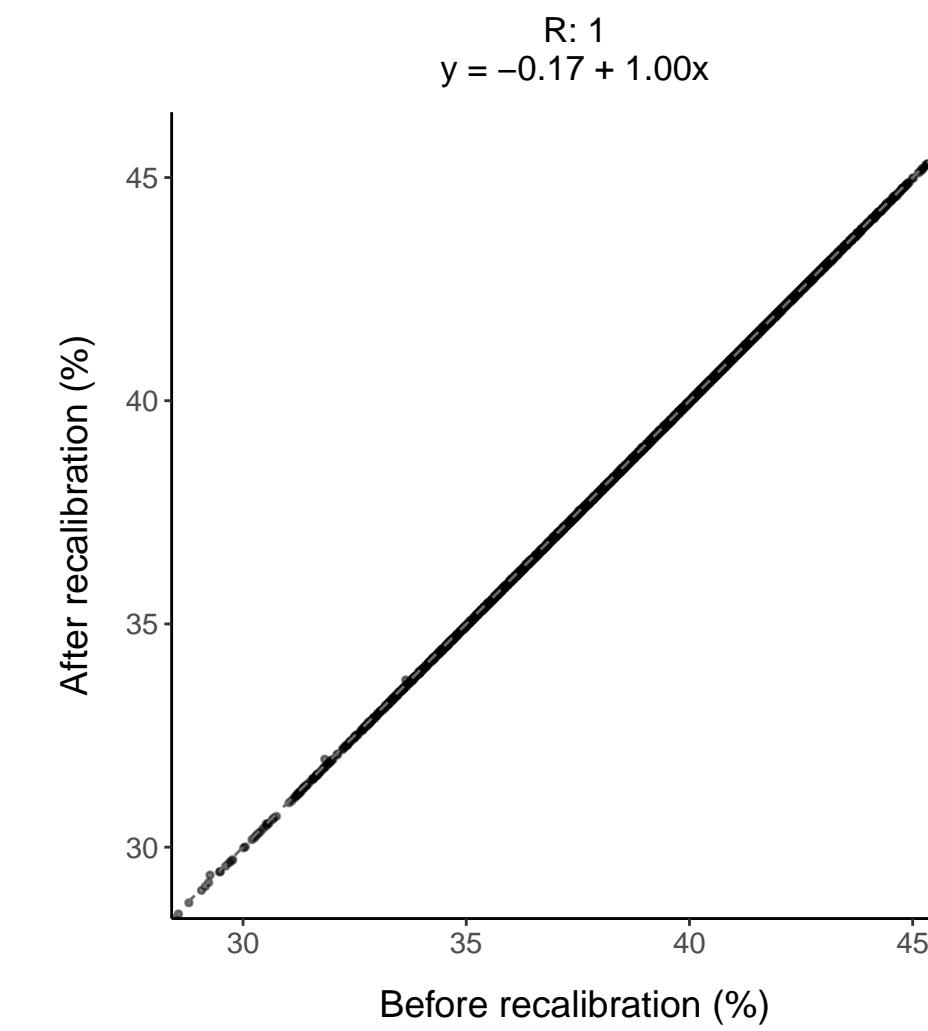
**M\_HDL\_PL\_pct**



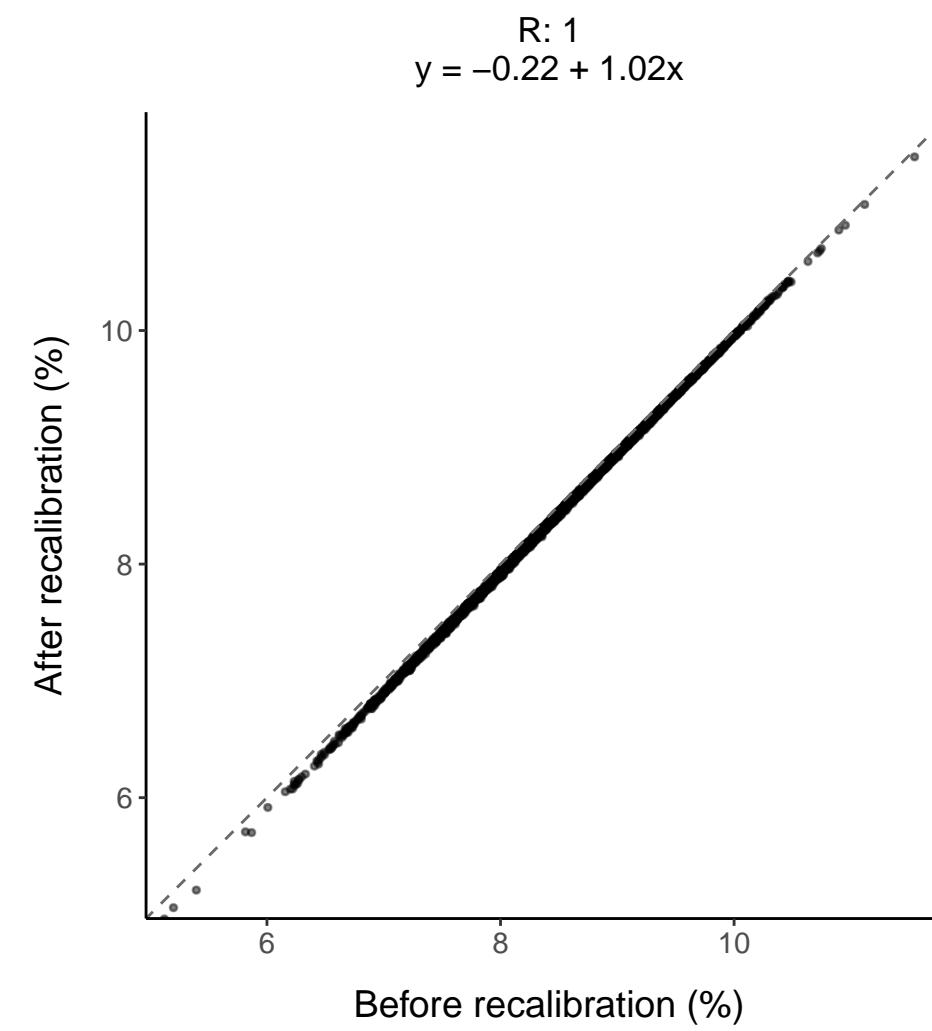
**M\_HDL\_C\_pct**



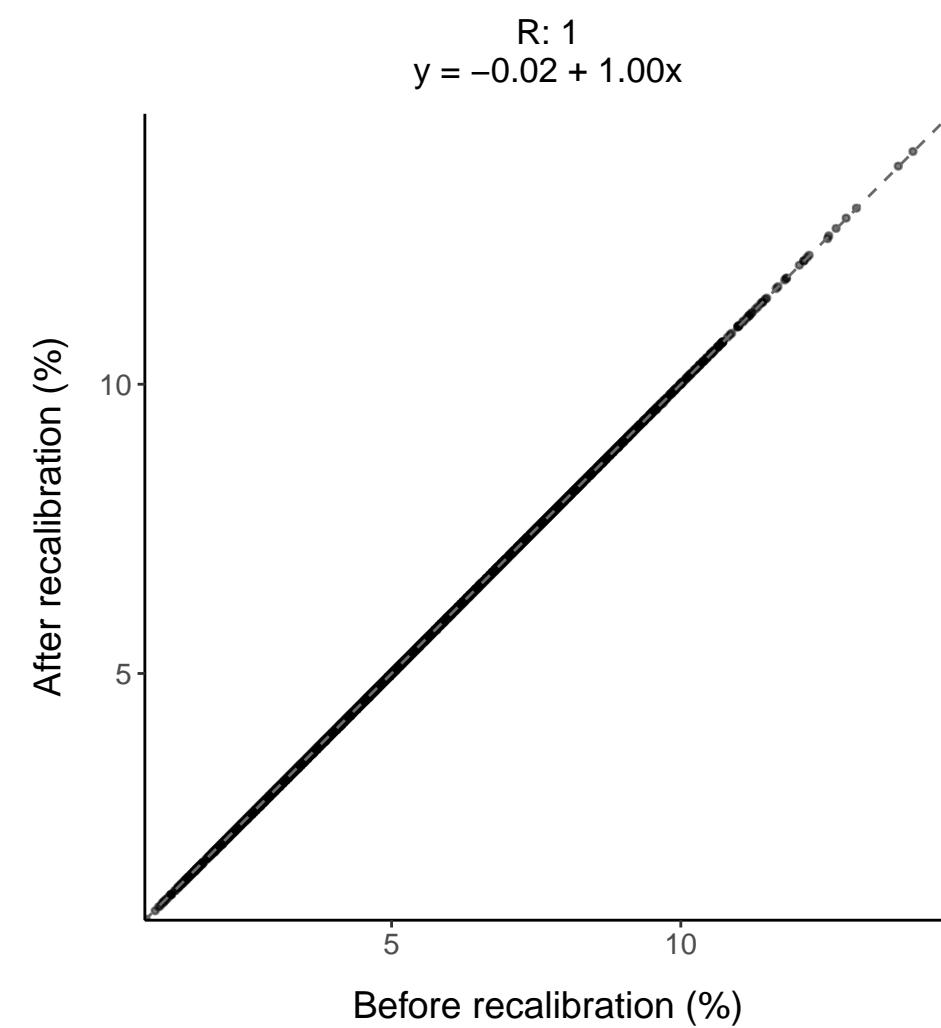
**M\_HDL\_CE\_pct**



**M\_HDL\_FC\_pct**

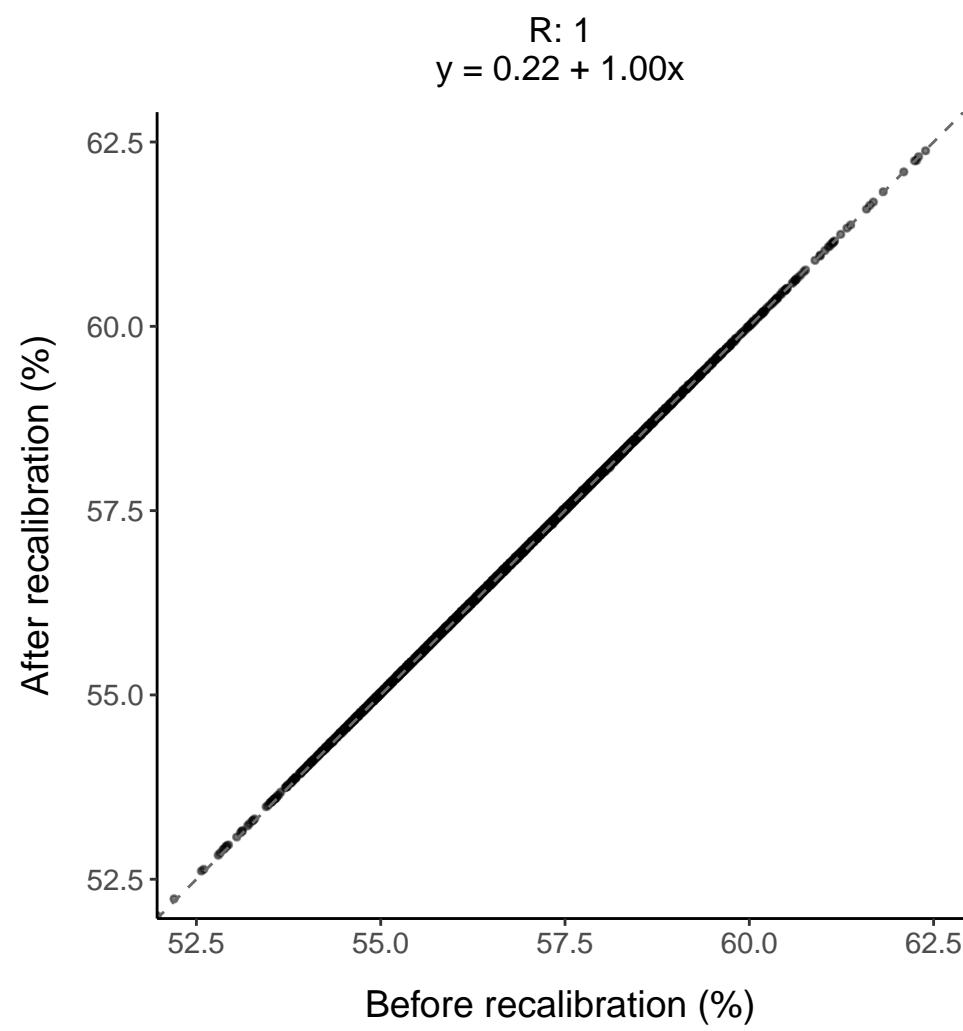


**M\_HDL\_TG\_pct**

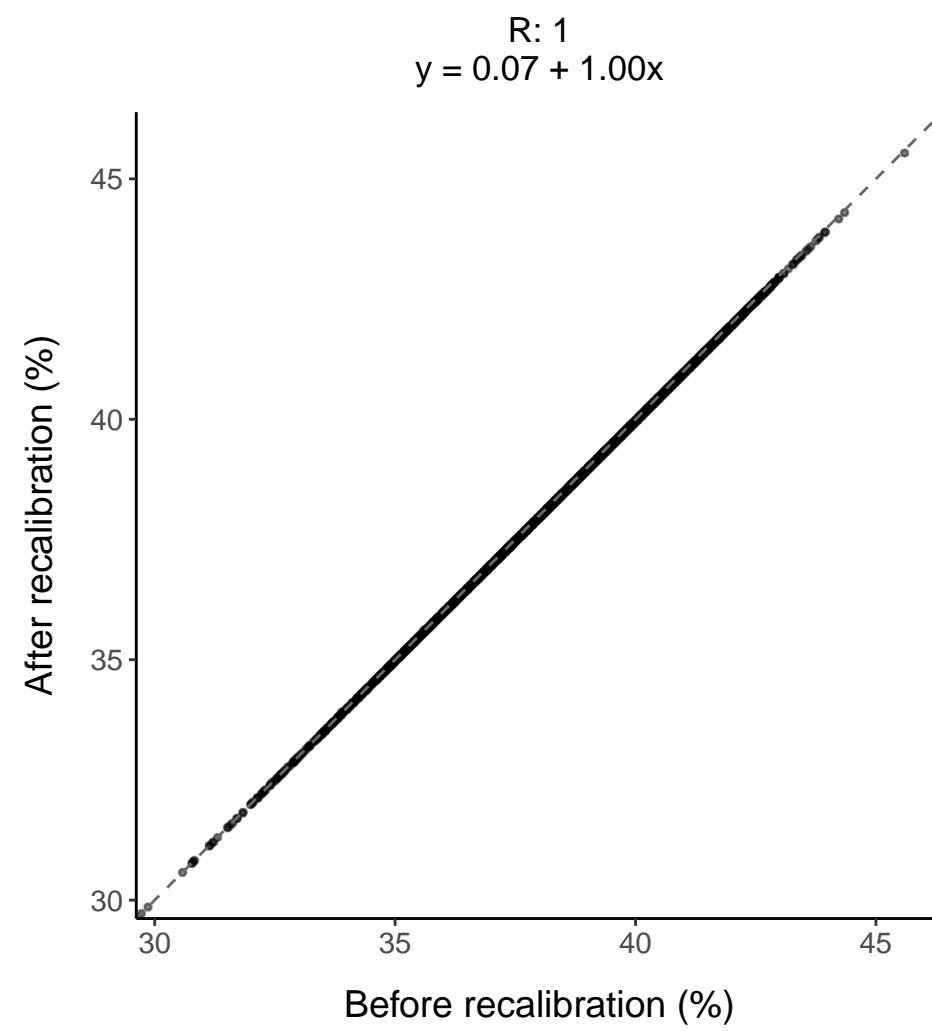


## Small HDL ratios

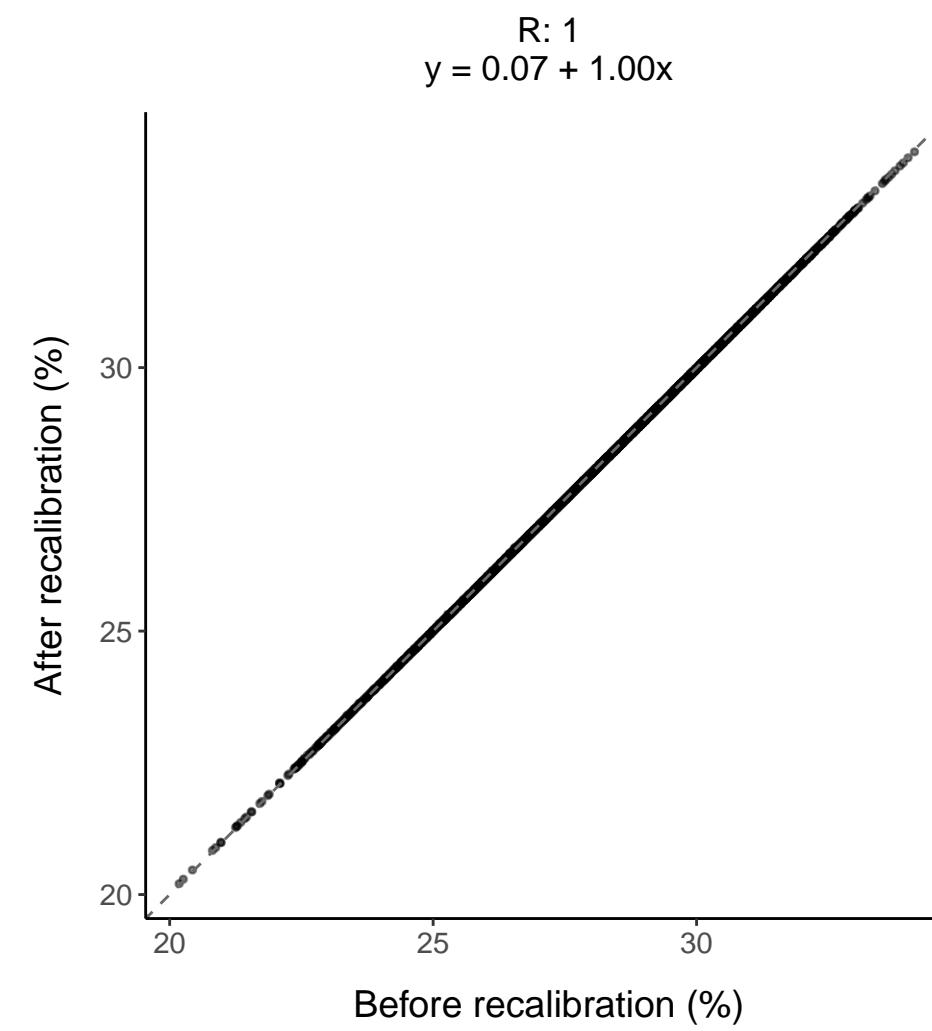
**S\_HDL\_PL\_pct**



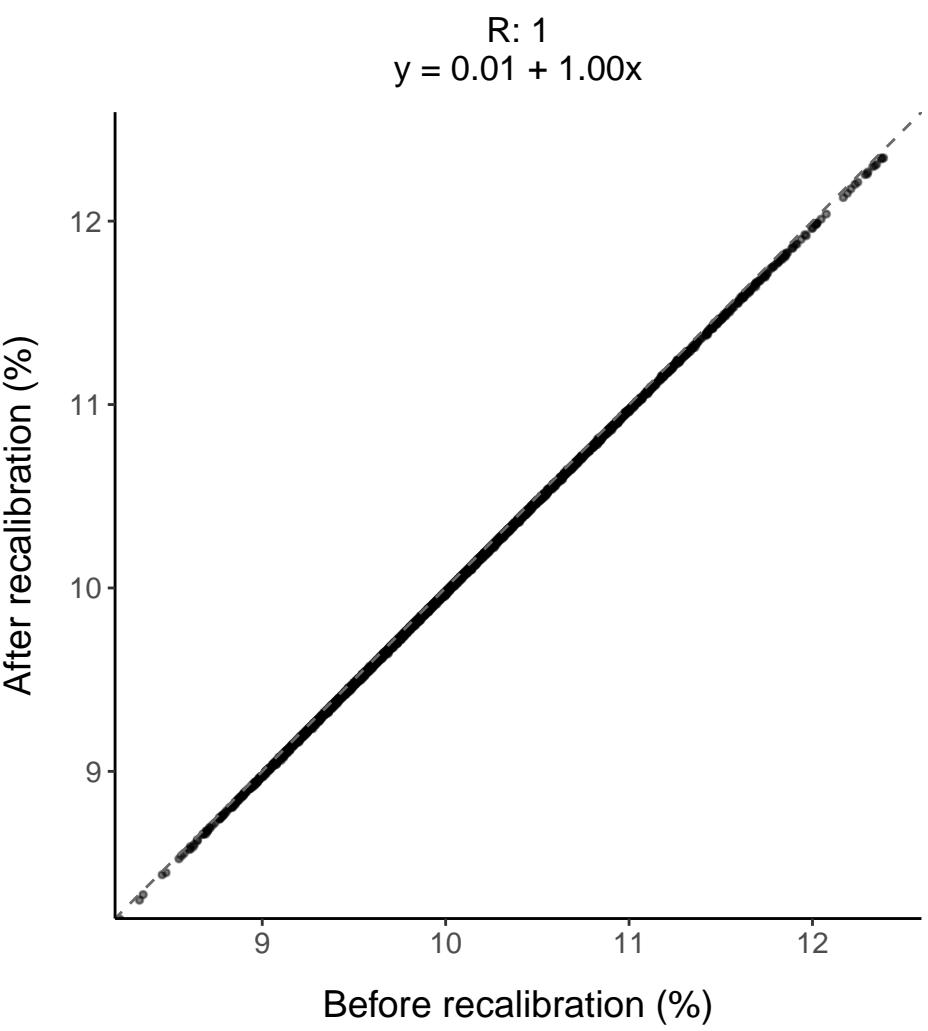
**S\_HDL\_C\_pct**



**S\_HDL\_CE\_pct**



**S\_HDL\_FC\_pct**



**S\_HDL\_TG\_pct**

