**Supplementary Table 3.** A list of lipid classes whose pre-ATI levels associate with faster time-to-viral-rebound upon ART cessation.

| Lipid class                  | Group       | Proportional Cox Hazard Model | Mantel Cox Test | Spearman's correlation |
|-----------------------------|-------------|-------------------------------|-----------------|------------------------|
|                             |             | HazardRatio (HR) | HR 95% lower confidence limit | HR 95% higher confidence limit | P value | FDR | P value | FDR | P value | FDR | rho |
| Lysophosphatidylethanolamine| Phospholipids| 4.255            | 1.586                           | 11.419                                  | 0.004    | 0.028 | 0.006   | 0.064| 0.002   | 0.023| -0.595 |
| Lysophosphatidylcholine     | Phospholipids| 6.340            | 1.992                           | 20.181                                  | 0.002    | 0.019 | 0.023   | 0.160| 0.002   | 0.023| -0.608 |
| Lysophosphatidic acid       | Phospholipids| 6.970            | 2.063                           | 23.548                                  | 0.002    | 0.019 | 0.040   | 0.212| 0.006   | 0.036| -0.548 |
| Phosphatidylinositol        | Phospholipids| 2.808            | 1.082                           | 7.290                                   | 0.034    | 0.147 | ns      |      | 0.014   | 0.058| -0.496 |
| Ceramide                    | Sphingolipids| 3.303            | 1.018                           | 10.714                                  | 0.047    | 0.147 | 0.002   | 0.042| 0.007   | 0.036| -0.536 |