**A)**

$$AAT= -11+0.68 GlycA-0.094 FAw3-0.8 VLDL-D+0.37 HDL3-C+4.2 LDL-D+0.14 Phe-0.08 Leu-0.064 ApoB-0.19 Alb-0.045 Tyr+0.019 bOHBut-0.045 BMI-0.043 Ala+0.011 L-HDL-TG -0.022 Ile-0.025 Ace-0.038 His+0.0024 HDL-TG$$

$$AGP=5.7+1.7 GlycA-0.34 TotFA+0.22 IDL-FC+0.043 L-HDL-FC-0.22 His-0.092 HDL-TG+0.11 BMI-0.16 S-HDL-FC-0.057 S-LDL-TG-0.023 bOHBut-0.062 LA+0.066 S-HDL-CE-0.055 Lac-0.021 S-VLDL-TG-0.042 Ace-0.052 Cit-0.038 SFA-0.049 Ala+0.0013 XXL-VLDL-CE+0.014 Glol+0.00017 Age+0.0084 Crea+0.0061 Gly$$

$$HP=0.53+3.0 GlycA-0.82 LA+0.36 IDL-FC+0.48 SM-0.26 FAw3-0.29 HDL-TG-0.0068 S-VLDL-CE+0.003 Age-0.75 Alb-0.13 Ile-0.25 Cit-0.89 VLDL-D-0.13 Leu+0.13 Val+0.0066 L-VLDL-CE+0.084 Pyr-0.084 Lac-0.094 Gln+0.042 M-HDL-FC-0.011 XL-HDL-TG+0.0089 XL-HDL-PL-0.048 His-0.026 Tyr-0.024 BMI-0.0037 L-HDL-TG-0.004 PUFA+0.00056 S-LDL-FC$$

$$TF=1.1+0.14 GlycA+0.032 Sex-0.0010 Age+0.090 S-HDL-FC-0.037 Ace+0.039 Ala+0.024 SFA+0.013 His-0.0097 Gln$$

**B)**

$$AAT= 0.54 GlycA-0.17 FAw3-0.16 VLDL-D+0.14 HDL3-C+0.11 LDL-D+0.11 Phe-0.096 Leu-0.081 ApoB-0.058 Alb-0.057 Tyr+0.052 bOHBut-0.045 BMI-0.036 Ala+0.036 L-HDL-TG-0.035 Ile-0.033 Ace-0.027 His+0.0034 HDL-TG$$

$$AGP=0.93 GlycA-0.27 TotFA+0.26 IDL-FC+0.12 L-HDL-FC-0.11 His-0.091 HDL-TG+0.08 BMI-0.079 S-HDL-FC-0.073 S-LDL-TG-0.05 bOHBut-0.048 LA+0.045 S-HDL-CE-0.043 Lac-0.043 S-VLDL-TG-0.04 Ace-0.037 Cit-0.035 SFA-0.032 Ala+0.026 XXL-VLDL-CE+0.022 Glol+0.013 Age+0.013 Crea+0.0041 Gly$$

$$HP=0.84 GlycA-0.29 LA+0.21 IDL-FC+0.18 SM-0.16 FAw3-0.14 HDL-TG-0.088 S-VLDL-CE+0.087 Age-0.078 Alb-0.076 Ile-0.074 Cit-0.062 VLDL-D-0.055 Leu+0.051 Val+0.048 L-VLDL-CE+0.04 Pyr-0.032 Lav-0.023 Gln+0.022 M-HDL-FC-0.014 XL-HDL-TG+0.012 XL-HDL-PL-0.012 His-0.011 Tyr-0.0086 BMI-0.004 L-HDL-TG-0.0014 PUFA+0.00025 S-LDL-FC$$

$$TF=0.13 GlycA+0.11 Sex-0.097 Age+0.08 S-HDL-FC-0.057 Ace+0.037 Ala+0.031 SFA+0.011 His-0.0079 Gln$$