

**Table S4.** Pearson correlation coefficients for the association between VO<sub>2peak</sub> and urinary metabolite concentrations pre- and post-exercise as well as exercise-induced metabolite fold changes (based on Van der Waerden scores of the analyzed variables)

Metabolites	Pre-Exercise		Post-Exercise		Fold Changes	
	<i>r</i> (unadjusted)	<i>r</i> (adjusted*)	<i>r</i> (unadjusted)	<i>r</i> (adjusted*)	<i>r</i> (unadjusted)	<i>r</i> (adjusted*)
1-Methylnicotinamide	-0.10	-0.06	<b>-0.27</b>	<b>-0.15</b>	<b>-0.25</b>	<b>-0.13</b>
2-Hydroxyisobutyrate	-0.03	0.05	-0.09	0.03	-0.09	-0.04
3-Aminoisobutyrate	-0.01	0.12	-0.04	0.12	-0.12	-0.07
3-Hydroxyisovalerate	0.05	0.01	0.06	-0.05	0.00	-0.04
3-Indoxylsulfate	<b>-0.18</b>	-0.02	<b>-0.22</b>	-0.04	-0.09	-0.04
3-Methylxanthine	-0.06	0.08	-0.10	0.08	-0.08	0.04
4-Hydroxyphenylacetate	<b>-0.17</b>	0.06	<b>-0.16</b>	-0.03	-0.01	-0.05
Acetate	<b>-0.20</b>	0.02	-0.12	-0.01	0.08	-0.03
Acetone	<b>0.14</b>	0.01	0.08	-0.01	-0.09	-0.02
Alanine	-0.10	-0.08	-0.07	-0.09	0.05	-0.01
Betaine	<b>-0.21</b>	-0.06	<b>-0.20</b>	-0.03	0.01	0.04
Carnitine	0.07	-0.04	<b>0.15</b>	-0.02	0.08	0.04
cis-Aconitate	<b>-0.15</b>	-0.04	<b>-0.29</b>	-0.10	-0.13	-0.05
Citrate	<b>-0.46</b>	0.03	<b>-0.39</b>	0.06	<b>0.26</b>	0.02
Creatine	<b>-0.24</b>	-0.10	<b>-0.35</b>	-0.11	<b>-0.21</b>	-0.02
Creatinine	<b>0.13</b>	-0.02	0.02	-0.09	-0.14	-0.06
Dimethylamine	-0.08	-0.04	<b>-0.25</b>	-0.10	<b>-0.18</b>	-0.04
Dimethylsulfone	<b>-0.23</b>	0.05	<b>-0.22</b>	0.09	0.02	0.01
Formate	-0.08	0.09	0.02	0.07	<b>0.16</b>	0.01
Gluconate	<b>-0.30</b>	0.05	<b>-0.36</b>	0.04	-0.06	0.02
Glycine	<b>-0.23</b>	-0.03	<b>-0.17</b>	-0.03	0.12	0.00
Glycolate	0.06	-0.10	-0.01	-0.12	-0.09	0.00
Guanidoacetate	<b>-0.39</b>	-0.10	<b>-0.41</b>	<b>-0.12</b>	0.02	-0.01
Hippurate	<b>-0.30</b>	-0.03	<b>-0.34</b>	-0.05	-0.14	-0.05
Histidine	<b>0.17</b>	<b>-0.17</b>	<b>0.20</b>	-0.11	0.00	0.06
Hypoxanthine	-0.04	0.07	-0.11	-0.09	-0.06	<b>-0.13</b>
Isoleucine	-0.12	-0.10	<b>-0.14</b>	-0.05	-0.02	0.05
Lactate	<b>-0.38</b>	0.04	-0.09	0.04	0.09	0.04
Leucine	0.08	-0.02	0.08	-0.05	0.00	-0.04
Mannitol	0.03	0.03	-0.09	0.03	-0.10	-0.01
Methanol	0.01	0.08	0.04	0.09	0.04	0.00
Methylamine	-0.10	-0.08	<b>-0.19</b>	-0.12	-0.11	-0.02
Methylsuccinate	0.02	-0.06	-0.02	-0.10	-0.04	-0.05
N,N-Dimethylglycine	-0.01	0.03	-0.01	0.04	0.00	0.02
Pseudouridine	-0.10	0.00	<b>-0.22</b>	-0.05	-0.12	-0.04
Pyruvate	<b>-0.16</b>	-0.06	<b>-0.12</b>	-0.11	-0.03	-0.05
Succinate	<b>-0.32</b>	-0.02	<b>-0.31</b>	0.02	0.06	0.05
Tartrate	<b>-0.13</b>	0.02	<b>-0.20</b>	-0.08	-0.03	-0.05
Taurine	<b>0.15</b>	-0.12	0.10	-0.09	-0.11	0.04
Threonine	-0.01	-0.10	0.10	-0.04	<b>0.14</b>	0.03
trans-Aconitate	0.09	0.11	<b>-0.20</b>	0.07	<b>-0.23</b>	-0.02
Trigonelline	<b>-0.35</b>	0.04	<b>-0.36</b>	0.05	-0.06	-0.01
Trimethylamine N-oxide	-0.03	-0.03	-0.06	-0.07	-0.05	-0.04
Tyrosine	-0.04	<b>-0.16</b>	-0.06	<b>-0.18</b>	-0.02	-0.04
Uracil	0.06	<b>0.16</b>	0.06	0.07	0.00	-0.10
Urea	<b>0.15</b>	0.10	<b>0.23</b>	0.10	0.08	-0.01
Valine	0.02	-0.05	-0.01	-0.07	-0.03	-0.02

\* correlations were adjusted for sex, menopausal status, age (y) and lean body mass (kg); bold: 95% confidence intervals do not include zero