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5 **On-Line Supplementary Material**
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9 **Bioavailability of Green Tea Flavan-3-ols and the Role of the Colon**
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As outlined in the main text, GC-MS of trimethylsilyl ethers was used to identify and quantify phenolic acids and related compounds in green tea, urine and fecal slurries. Identifications were based on co-chromatography with reference compounds, coupled with mass spectrometric fragmentation patterns and, when authentic standards were not available, by reference to published data and the NIST 98 MS library. A summary of the 16 compounds identified in this manner is presented in **Table S1**. It should be noted that 2- and 3-hydroxybenzoic acid, which were not detected in any of the samples analyzed, were separated by GC both from each other and from their 4-hydroxy isomer which, as noted in the main text, was detected in green tea and urine. These separations are in keeping with the GC analyses of Jenner *et al.* (2) who also reported the GC separation of the trimethylsilylated ether of 3- and 4-hydroxyphenylacetic acid. With regard to the identification of 3-(3-hydroxyphenyl)-3-hydroxypropionic acid, although standards of other 3-(hydroxyphenyl)-hydroxypropionic acid isomers were not available, the GC separation of the hydroxybenzoic acid isomers, and the hydroxyphenylacetic acids suggests that these compounds would also be resolved.

Typical GC-MS traces of urine collected 8-24 h after the ingestion of 300 mL of either green tea or water by a healthy subject and 300 mL of green tea a subject with an ileostomy are illustrated in **Figure S1**.

LITERATURE CITED

- (1) Olthof, M. R.; Hollman, P. C. J.; Buijsman, M. N. C. P.; van Amelsvoort, J. M. M.; Katan, M. Chlorogenic acid, quercetin-3-rutinoside and black tea: phenols are extensively metabolized in humans. *J. Nutr.* **2003**, *133*, 1806-1814
- (2) Jenner, A. M.; Rafter, J.; Halliwell, B. Human fecal water content of phenolics, the extent of colonic exposure to aromatic compounds. *Free Rad. Biol. Med.* **2006**, *40*, 1035-1046.
- (3) Zadernowski, R.; Naczki, M.; Nesterwicz, J. Phenolic acid profiles in some small berries. *J. Agric. Food. Chem.* **2005**, *53*, 2118-2124.
- (4) Gonthier, M.-P.; Cheynier, V.; Donovan, J. L.; Manach, C.; Morand, C.; Mila, I.; Lapierre, C.; Rémésy, C.; Scalbert, A. Microbial aromatic acid metabolites formed in the gut

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- 2 polyphenols. *J. Nutr.* **2003**, 133, 461-467.
- 3

Table S1. Retention Time and Characteristic Ions of Phenolic Acids and Catabolites in Green Tea, Urine and Fecal Slurries

GC Peak	Phenolic acids and catabolites	t_R (min)	Base ion (m/z)	Qualifier ion (m/z)	Identification
1	Pyrocatechol	12.62	254	239; 73	Standard, NIST
2	Pyrogallol	14.98	239	342; 73	Standard, NIST
3	4-Hydroxybenzoic acid	16.86	267	223; 193	Standard, NIST, Olthof <i>et al.</i> (1)
4	4-Hydroxyphenylacetic acid	17.02	296	281; 252	Standard, NIST, Olthof <i>et al.</i> (1)
5	3-(3-Hydroxyphenyl)propionic acid	21.88	310	205; 192	Standard
6	3-Methoxy-4-hydroxyphenylacetic acid	22.07	326	209; 179	Standard, Olthof <i>et al.</i> (1) Jenner <i>et al.</i> (2)
7	3-Hydroxycinnamic acid	23.00	308	293; 147	Standard, Zadernowski <i>et al.</i> (3)
8	3,4-Dihydroxybenzoic acid	24.52	193	165; 223	Standard, NIST, Olthof <i>et al.</i> (1)
1	Hippuric acid	25.25	105	206; 236	Standard, NIST, Olthof <i>et al.</i> (1)
10	3-(3-Hydroxyphenyl)-3-hydroxypropionic acid	25.88	267	207; 147	NIST
11	4-Coumaric acid	28.70	308	293; 219	Standard, NIST
12	Gallic acid	29.96	458	281; 443	Standard, NIST
13	Ferulic acid	33.18	338	249; 323	Standard, NIST
14	5-(3,4-Dihydroxyphenyl)- γ -valeric acid	33.90	267	426; 205	NIST
15	(-)-5-(3',4'-Dihydroxyphenyl)- γ -valerolactone	34.44	352	267; 73	Gonthier <i>et al.</i> (4)
16	(-)-5-(3',4',5'-Trihydroxyphenyl)- γ -valerolactone	34.95	352	268; 73	NIST

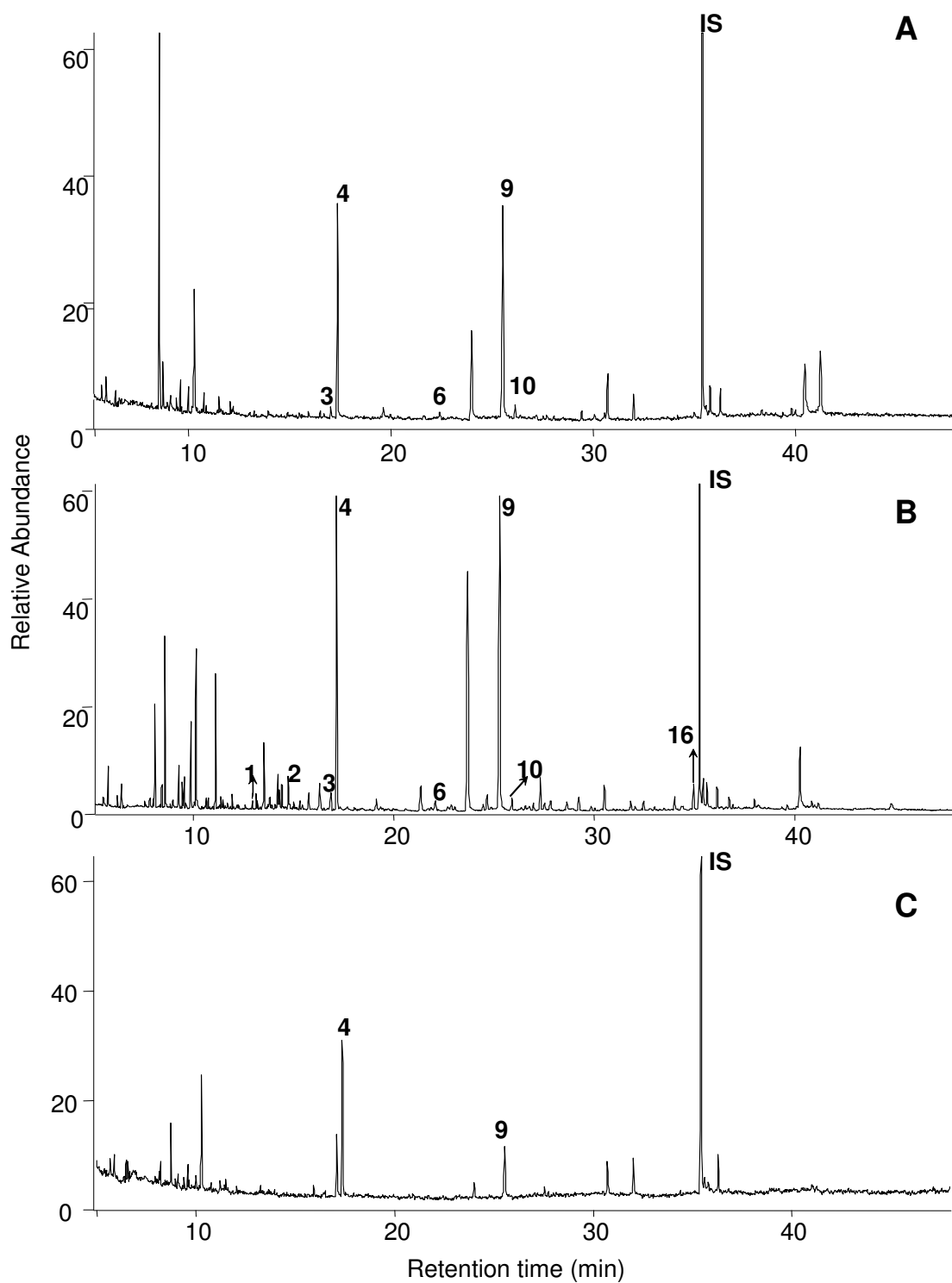


Figure S1. GC-MS traces of human urine collected 8-24 h after supplementation. (A) a healthy subject after drinking water, (B) a healthy subject after drinking green tea and, (C) an ileostomy volunteer after drinking green tea. For peak numbers, see **Table S1**. IS - internal standard