

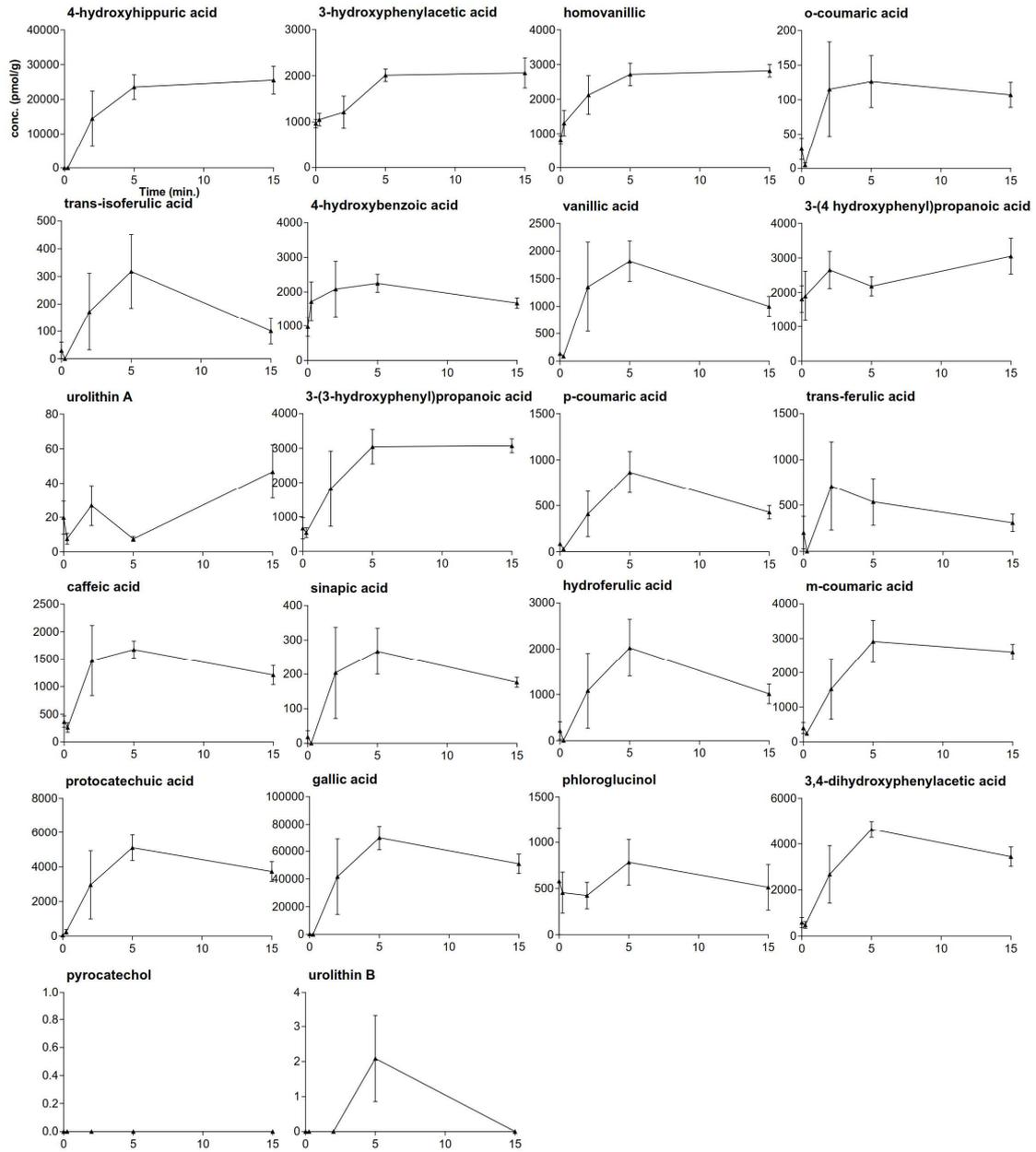
SUPPLEMENTARY MATERIAL

Quality control acquisition, recovery and data variability

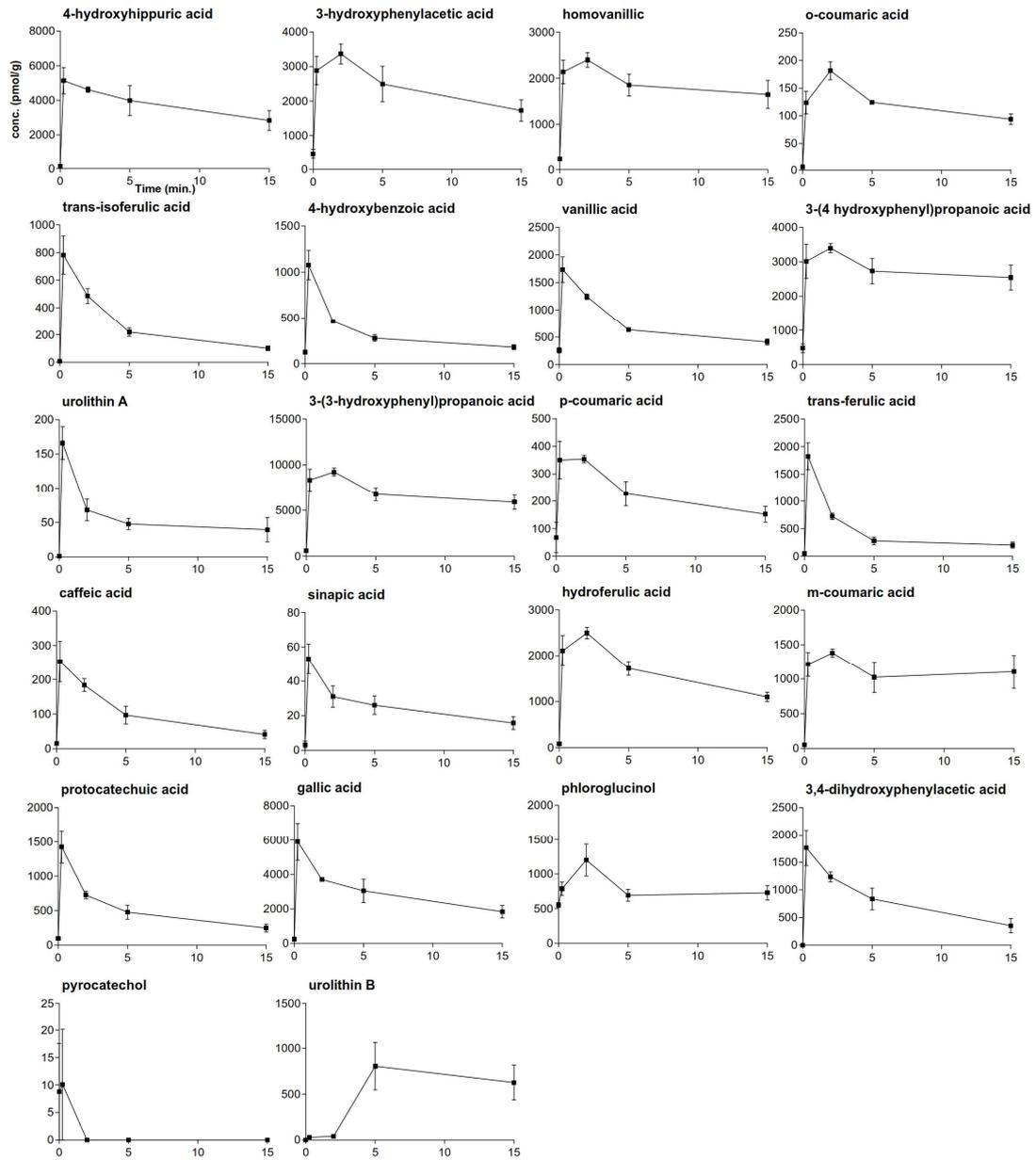
For each individual sample, the quality of sample preparation (extraction and purification) and analytical performance (acquisition) were constantly monitored through the quantitative results of two internal standards and polyphenol metabolite mix injected every 10 biological samples during instrumental analysis. The relative standard deviation (RSD %) for the entire batch sequence in all samples (n=126) as regards the two internal standards was 15 % and 14 %, respectively for butyric acid-d₅ and cinnamic acid-d₇. In the case of the standard mix injections (n=14), with every 10 samples, there was a relative standard deviation below 16 % for all polyphenol metabolites. Detailed information about quality control acquisition are reported in Supplementary Table 1.

The instrumental method used for the detection and quantification of the polyphenol metabolites was already validated and published by Gasperotti et al. and the recovery in all matrixes was validated. Quantitative data for each metabolite was thus normalized with the corresponding recovery value in the different validated biological matrixes.

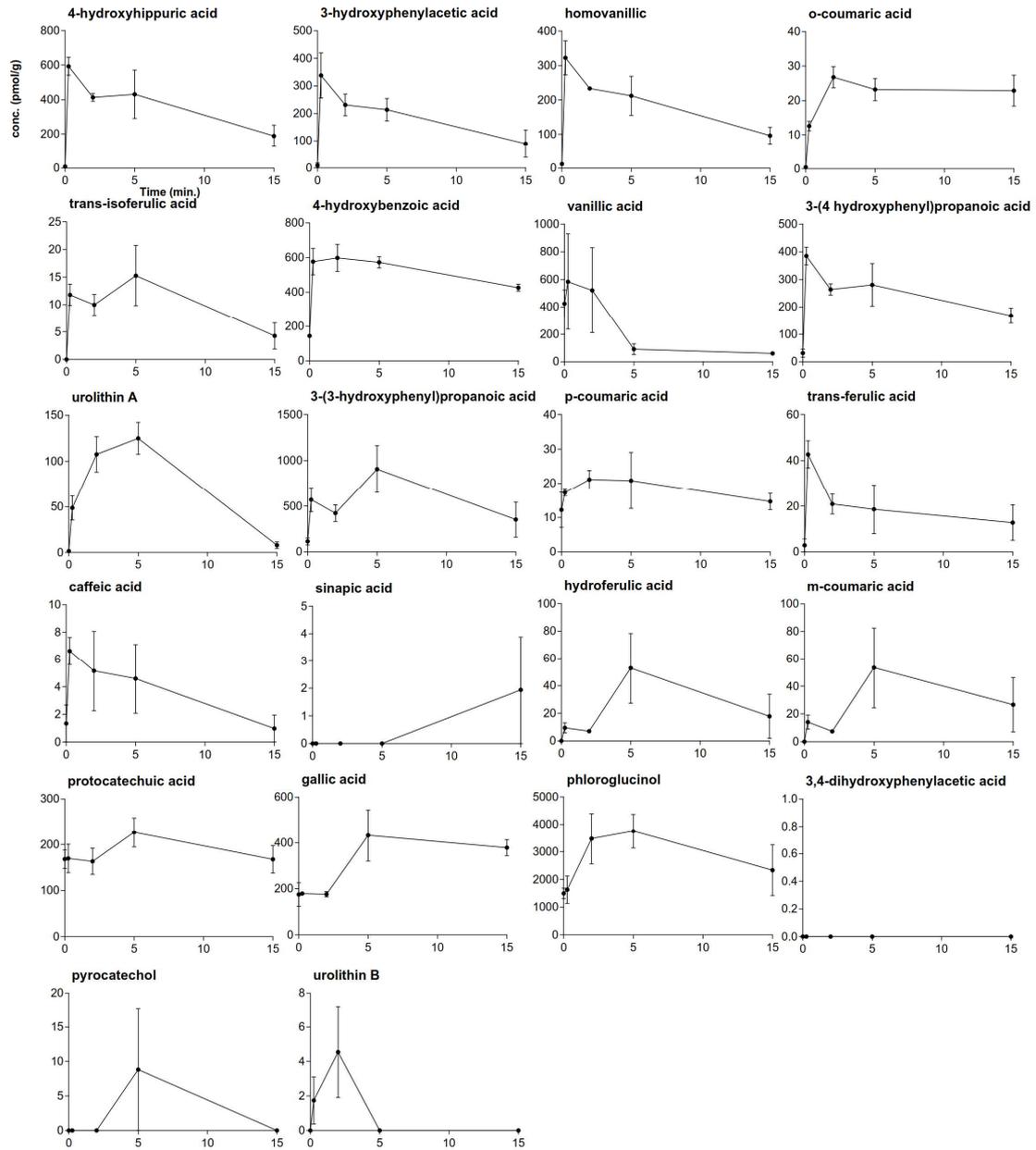
Supplementary Figure 1: Polyphenol microbial metabolites in urine and their kinetics of distribution (pmol/g).



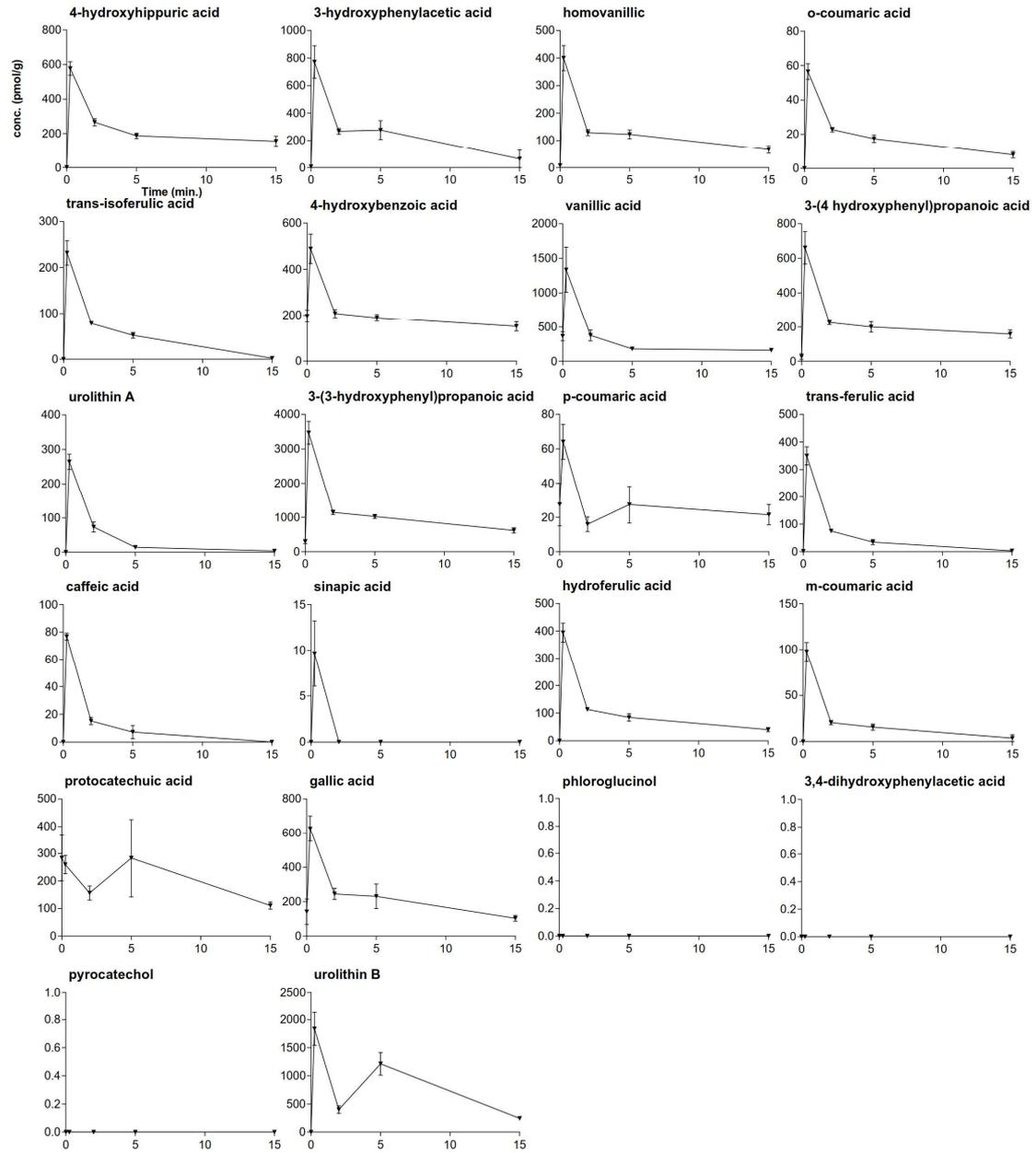
Supplementary Figure 2: Polyphenol microbial metabolites in kidneys and their kinetics of distribution (pmol/g).



Supplementary Figure 3: Polyphenol microbial metabolites in liver and their kinetics of distribution (pmol/g).



Supplementary Figure 4: Polyphenol microbial metabolites in heart and their kinetics of distribution (pmol/g).



Supplementary Table 1: Quality control acquisition (n = number of injection, s.d : standard deviation, CV% : correlation value)

	standards mix (n=14)			internal standards (n=126)		
	mean (mg/L)	s.d.	CV%	mean (mg/L)	s.d.	CV%
t-cinnamic acid d5 - IS				0.78	0.12	15
butyric acid d7 - IS				1.06	0.15	14
phloroglucinol	1.03	0.04	4			
gallic acid	1.01	0.06	6			
pyrogallol	0.96	0.04	4			
protocatechuic acid	0.94	0.06	6			
3,4-dihydroxyphenyl acetic acid	0.99	0.03	3			
4-hydroxyhippuric acid	0.95	0.07	8			
4-hydroxybenzoic acid	0.96	0.03	4			
pyrocatechol	0.97	0.07	7			
caffeic acid	0.92	0.06	7			
vanillic acid	0.94	0.05	5			
3-hydroxyphenylacetic acid	0.86	0.10	11			
homovanillic acid	0.98	0.04	4			
3-(4-hydroxyphenyl)propanoic acid	0.99	0.06	6			
p-coumaric	0.98	0.04	4			
hydroferulic acid	0.86	0.07	8			
3-(3-hydroxyphenyl)propanoic acid	0.96	0.06	6			
<i>trans</i> -ferulic acid	0.98	0.04	4			
sinapic acid	0.78	0.12	16			
m-coumaric acid	0.98	0.03	3			
<i>trans</i> -isoferulic acid	0.98	0.06	6			
o-coumaric acid	0.94	0.05	5			
urolithin A	0.97	0.02	3			
urolithin B	0.80	0.06	8			