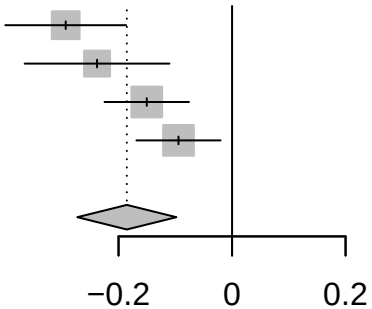
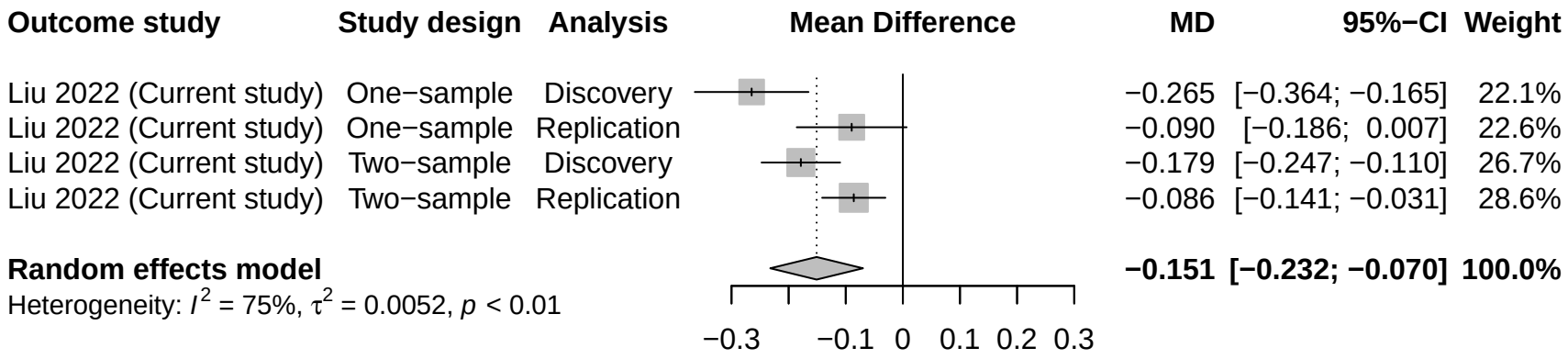
Alistipes (Genus) abundance (SD) on Triglycerides in Xiaomin Liu 2022

Outcome study	Study design	Analysis	Mean Difference	MD	95%−CI	Weight
Liu 2022 (Current study)	One−sample	Discovery		−0.293	[−0.400; −0.187]	23.2%
Liu 2022 (Current study)	One−sample	Replication		−0.238	[−0.365; −0.110]	20.2%
Liu 2022 (Current study)	Two−sample	Discovery		−0.150	[−0.225; −0.076]	28.3%
Liu 2022 (Current study)	Two−sample	Replication		−0.094	[−0.169; −0.020]	28.3%
Random effects model				**−0.185**	**[−0.273; −0.098]**	**100.0%**

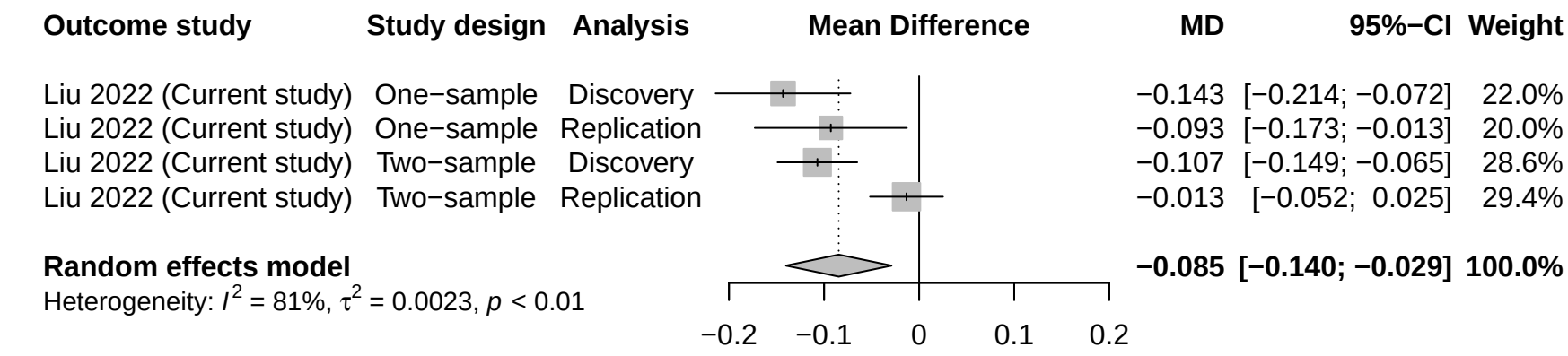
Heterogeneity: I^2 = 71%, τ^2 = 0.0056, p = 0.02



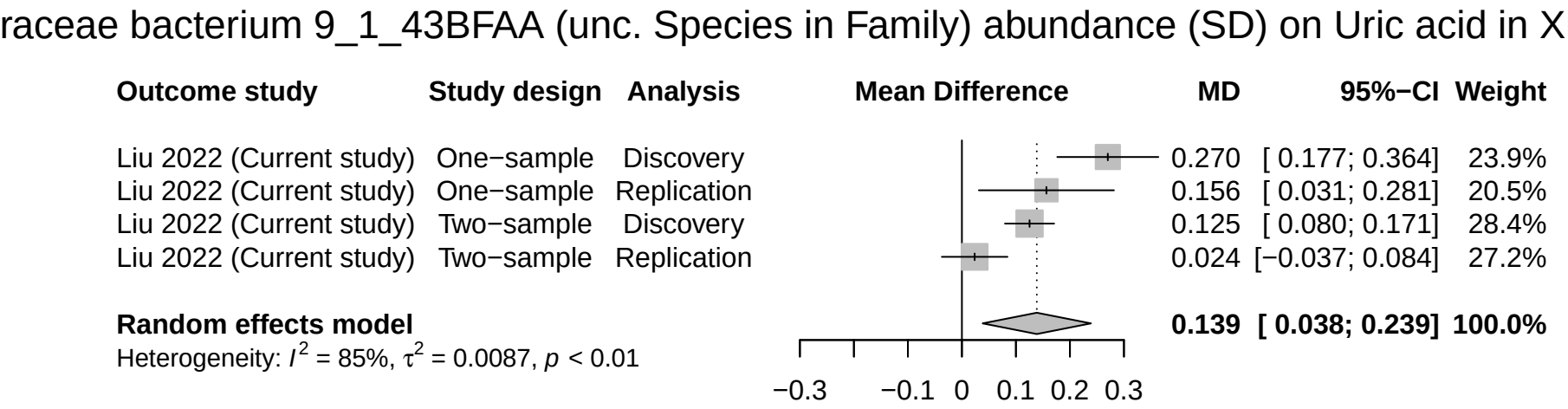
Alistipes (Genus) abundance (SD) on VB5 in Xiaomin Liu 2022



Faecalibacterium prausnitzii (Species) abundance (SD) on Selenium in Xiaomin Liu 2022



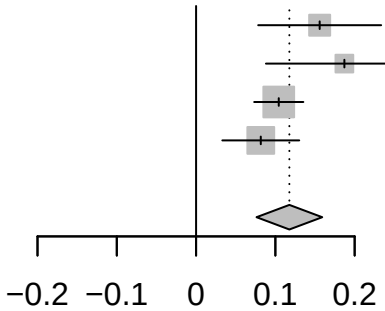
raceae bacterium 9_1_43BFAA (unc. Species in Family) abundance (SD) on Uric acid in Xiaomi



MF0004 (Pathway) abundance (SD) on Alanine in Xiaomin Liu 2022

Outcome study	Study design	Analysis	MD	95%−CI	Weight
Liu 2022 (Current study)	One−sample	Discovery	0.156	[0.078; 0.233]	18.2%
Liu 2022 (Current study)	One−sample	Replication	0.187	[0.088; 0.286]	13.0%
Liu 2022 (Current study)	Two−sample	Discovery	0.104	[0.073; 0.135]	39.1%
Liu 2022 (Current study)	Two−sample	Replication	0.082	[0.033; 0.130]	29.7%
Random effects model			**0.118**	**[0.076; 0.159]**	**100.0%**

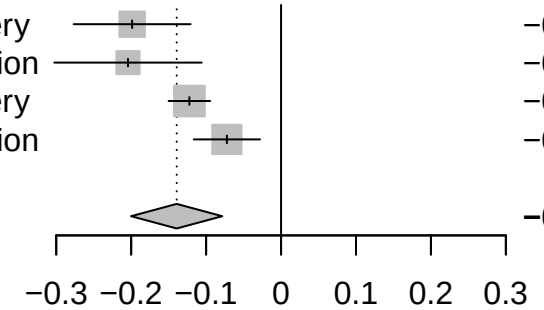
Heterogeneity: I^2 = 41%, τ^2 = 0.0009, p = 0.16



MF0004 (Pathway) abundance (SD) on Progesterone in Xiaomin Liu 2022

Outcome study	Study design	Analysis	MD	95%−CI	Weight
Liu 2022 (Current study)	One−sample	Discovery	−0.199	[−0.277; −0.121]	21.7%
Liu 2022 (Current study)	One−sample	Replication	−0.204	[−0.303; −0.106]	18.0%
Liu 2022 (Current study)	Two−sample	Discovery	−0.122	[−0.150; −0.095]	31.6%
Liu 2022 (Current study)	Two−sample	Replication	−0.072	[−0.116; −0.028]	28.7%
Random effects model			**−0.139**	**[−0.200; −0.078]**	**100.0%**

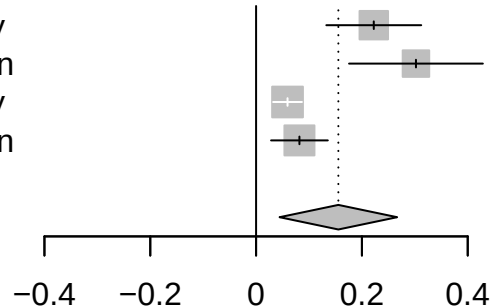
Heterogeneity: I^2 = 73%, τ^2 = 0.0028, p = 0.01



MF0004 (Pathway) abundance (SD) on Uric acid in Xiaomin Liu 2022

Outcome study	Study design	Analysis	MD	95%−CI	Weight
Liu 2022 (Current study)	One−sample	Discovery	0.222	[0.133; 0.312]	24.1%
Liu 2022 (Current study)	One−sample	Replication	0.302	[0.176; 0.429]	20.9%
Liu 2022 (Current study)	Two−sample	Discovery	0.059	[0.032; 0.087]	28.1%
Liu 2022 (Current study)	Two−sample	Replication	0.082	[0.028; 0.136]	26.8%
Random effects model			**0.155**	**[0.044; 0.267]**	**100.0%**

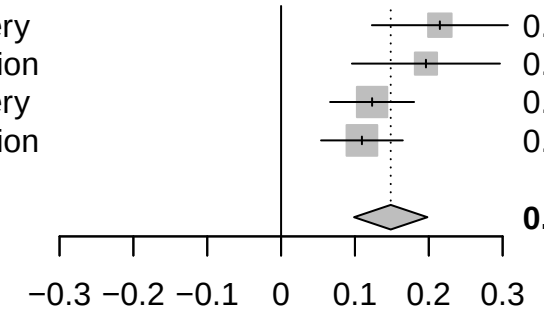
Heterogeneity: I^2 = 87%, τ^2 = 0.0112, p < 0.01



MF0010 (Pathway) abundance (SD) on Alanine in Xiaomin Liu 2022

Outcome study	Study design	Analysis	MD	95%−CI	Weight
Liu 2022 (Current study)	One−sample	Discovery	0.215	[0.123; 0.307]	18.9%
Liu 2022 (Current study)	One−sample	Replication	0.196	[0.096; 0.296]	16.9%
Liu 2022 (Current study)	Two−sample	Discovery	0.123	[0.066; 0.180]	31.7%
Liu 2022 (Current study)	Two−sample	Replication	0.109	[0.054; 0.165]	32.4%
Random effects model			**0.148**	**[0.099; 0.198]**	**100.0%**

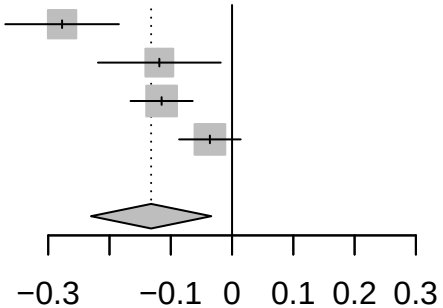
Heterogeneity: I^2 = 43%, τ^2 = 0.0012, p = 0.15



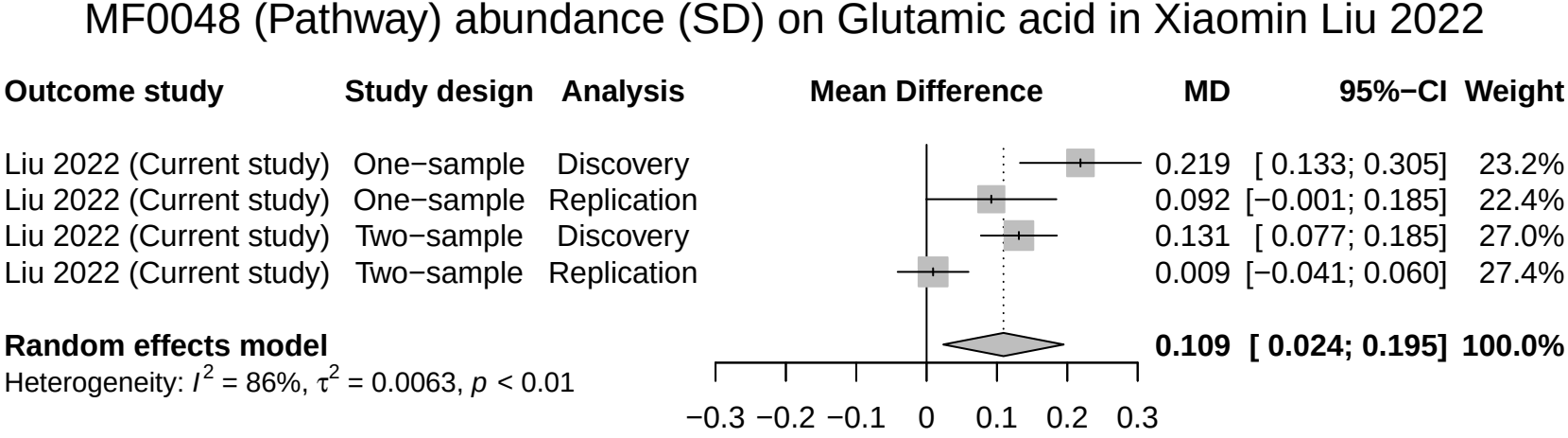
MF0010 (Pathway) abundance (SD) on Progesterone in Xiaomin Liu 2022

Outcome study	Study design	Analysis	MD	95%−CI	Weight
Liu 2022 (Current study)	One−sample	Discovery	−0.277	[−0.370; −0.185]	23.2%
Liu 2022 (Current study)	One−sample	Replication	−0.119	[−0.219; −0.019]	22.4%
Liu 2022 (Current study)	Two−sample	Discovery	−0.115	[−0.166; −0.064]	27.2%
Liu 2022 (Current study)	Two−sample	Replication	−0.036	[−0.086; 0.014]	27.2%
Random effects model			**−0.132**	**[−0.230; −0.034]**	**100.0%**

Heterogeneity: I^2 = 86%, τ^2 = 0.0086, p < 0.01



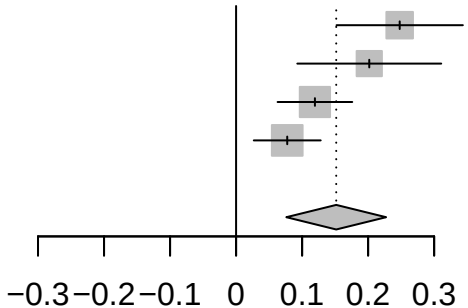
MF0048 (Pathway) abundance (SD) on Glutamic acid in Xiaomin Liu 2022



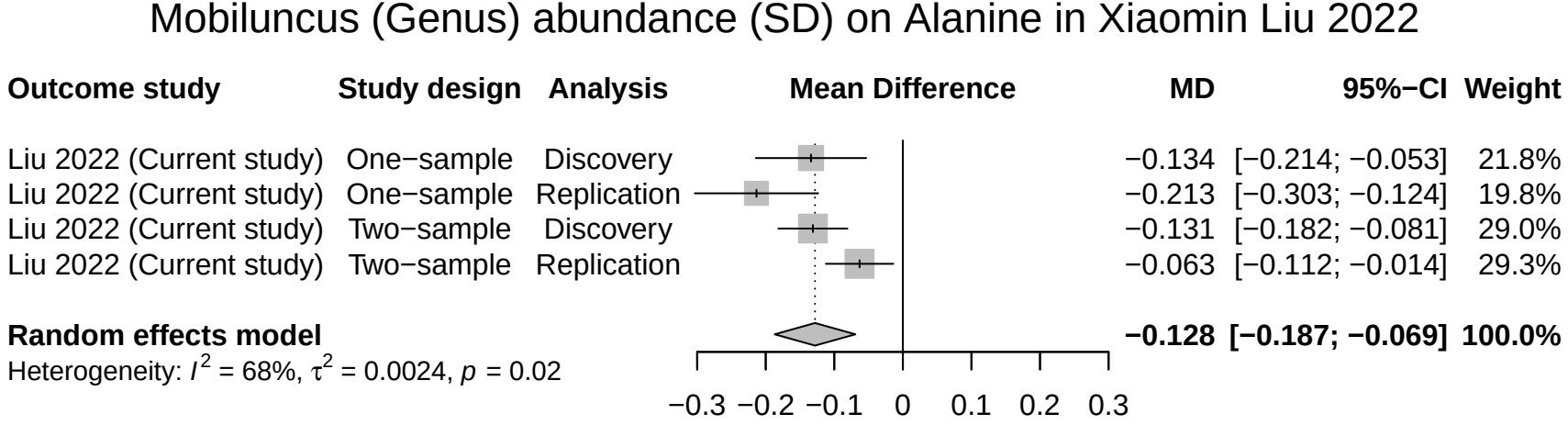
MF0049 (Pathway) abundance (SD) on Glutamic acid in Xiaomin Liu 2022

Outcome study	Study design	Analysis	MD	95%−CI	Weight
Liu 2022 (Current study)	One−sample	Discovery	0.248	[0.152; 0.343]	22.0%
Liu 2022 (Current study)	One−sample	Replication	0.202	[0.093; 0.311]	19.9%
Liu 2022 (Current study)	Two−sample	Discovery	0.119	[0.063; 0.176]	28.6%
Liu 2022 (Current study)	Two−sample	Replication	0.077	[0.027; 0.128]	29.5%
Random effects model			**0.152**	**[0.076; 0.227]**	**100.0%**

Heterogeneity: I^2 = 74%, τ^2 = 0.0044, p < 0.01



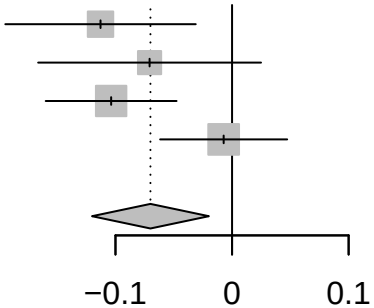
Mobiluncus (Genus) abundance (SD) on Alanine in Xiaomin Liu 2022



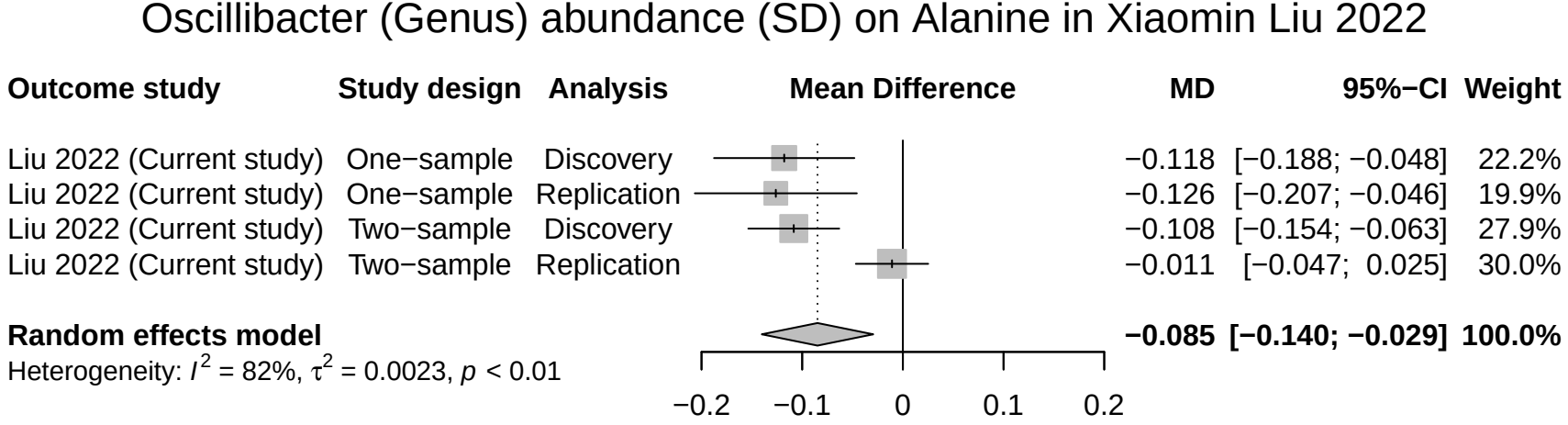
Mobiluncus curtisii (Species) abundance (SD) on Alanine in Xiaomin Liu 2022

Outcome study	Study design	Analysis	Mean Difference	MD	95%−CI	Weight
Liu 2022 (Current study)	One−sample	Discovery		−0.113	[−0.195; −0.031]	21.2%
Liu 2022 (Current study)	One−sample	Replication		−0.071	[−0.166; 0.025]	17.6%
Liu 2022 (Current study)	Two−sample	Discovery		−0.104	[−0.160; −0.048]	30.3%
Liu 2022 (Current study)	Two−sample	Replication		−0.007	[−0.062; 0.047]	30.9%
Random effects model				**−0.070**	**[−0.120; −0.020]**	**100.0%**

Heterogeneity: I^2 = 60%, τ^2 = 0.0013, p = 0.06



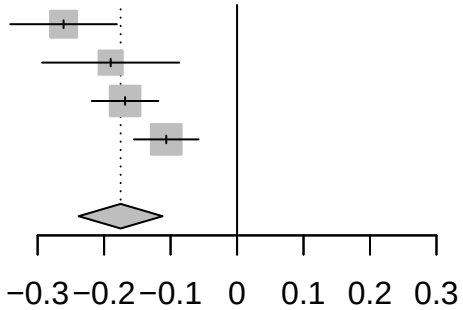
Oscillibacter (Genus) abundance (SD) on Alanine in Xiaomin Liu 2022



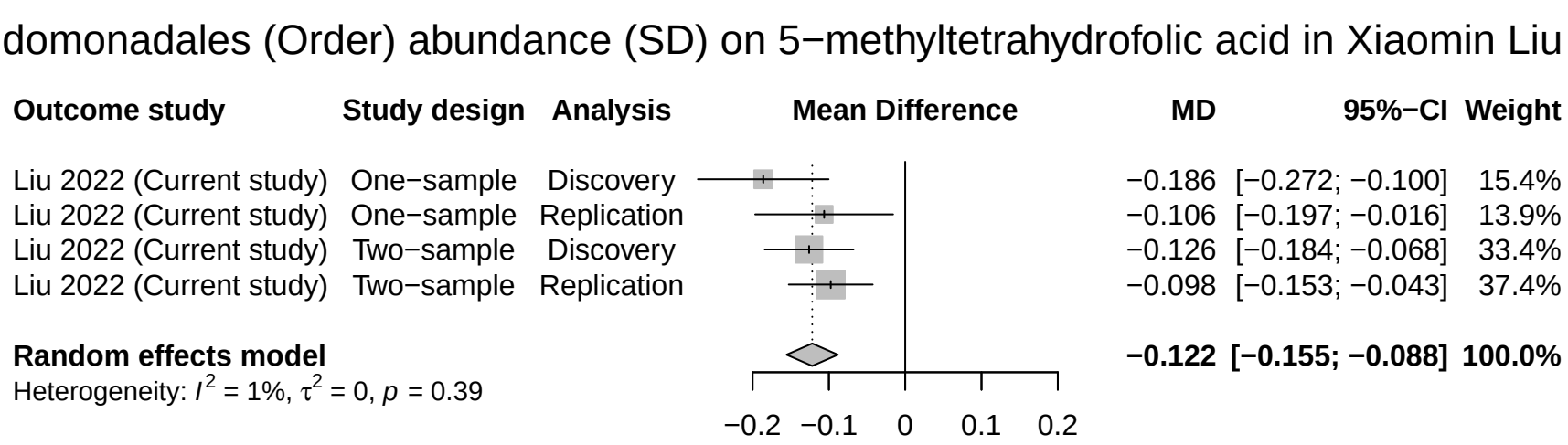
Oscillibacter (Genus) abundance (SD) on Triglycerides in Xiaomin Liu 2022

Outcome study	Study design	Analysis	Mean Difference	MD	95%−CI	Weight
Liu 2022 (Current study)	One−sample	Discovery		−0.261	[−0.341; −0.181]	22.8%
Liu 2022 (Current study)	One−sample	Replication		−0.190	[−0.293; −0.087]	18.3%
Liu 2022 (Current study)	Two−sample	Discovery		−0.168	[−0.219; −0.118]	29.3%
Liu 2022 (Current study)	Two−sample	Replication		−0.106	[−0.155; −0.058]	29.6%
Random effects model				**−0.175**	**[−0.238; −0.112]**	**100.0%**

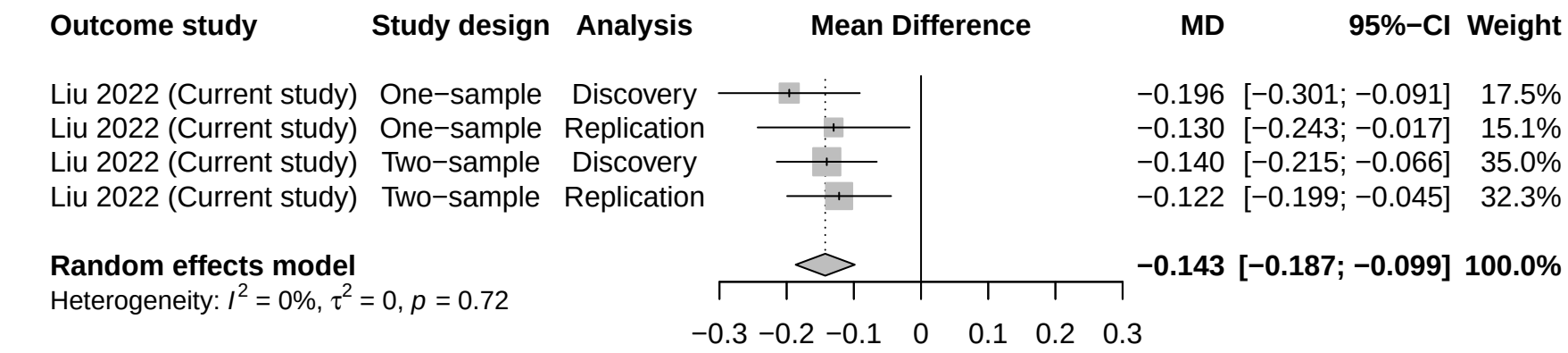
Heterogeneity: I^2 = 73%, τ^2 = 0.0029, p = 0.01



Pseudomonadales (Order) abundance (SD) on 5−methyltetrahydrofolic acid in Xiaomin Liu 2022



Salmonella (Genus) abundance (SD) on 5−methyltetrahydrofolic acid in Xiaomin Liu 2022



Streptococcus parasanguinis (Species) abundance (SD) on Strontium in Xiaomin Liu 2022