Supplementary Information

Microbial ecology of the planetary boundary layer

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Table S1: List of investigations whose datasets have been used to do the PCo multivariate analysis in the **Fig. 2**.

Name on the PCoA	Study	Reference number of the metagenome	Atmospheric niche and location	Sampling strategy	Sequencing technology
Namibia	Evans et al. 2019	SRR7623710 SRR7623711 SRR7623712	fog Namibia and Maine	passive fog collector	454
Austria	Els et al. 2019	SRR7870688 SRR7870689 SRR7870690 SRR7870691	PM* Mount Sonnblick, Austria	liquid impingement	MiSeq
Pyrenees	Cáliz et al. 2018	ERR1449873 ERR1449874 ERR1449875 ERR1449876	rain and snow Central Pyrenees, Spain	wet and dry passive sampler	Miseq
Beijing (black)	Park et al. 2018	DRR055298 DRR055299 DRR055300	dust Beijing, China	glass fiber filter, impactor	Ion
Mount_Thai_China	Zhu et al. 2017	SRR4302008	cloud water Mount Tai, China	cloud water collector	MiSeq
Beijing (dark red)	Yan et al. 2018	SRR4302488 SRR4302489	PM Beijing, China	impingement	MiSeq
USA_aircraft	Smith et al. 2018	L18002369_S6 L18002386_S23 L18002372_S9 L18002367_S4	PM high troposphere, USA	aircraft bioaerosol collector, gelatinous filter membrane	MiSeq
PDD (blue)	Amato et al. 2017	SRR5399580 SRR5399582 SRR5399584	cloud water puy de Dôme, France	cloud water sampler	MiSeq
Beijing (black)	Zhen et al. 2017	SRR5192457	PM Beijing, China	glass fiber filter, impactor	HiSeq

Eastern_Med	Gat et al. 2017	SRR5247688 SRR5247689 SRR5247690	dust Eastern Mediterranean	quartz filter, impactor	MiSeq
Milan	Gandolfi et al. 2015	ERR580776 ERR580777 ERR580780 ERR580781	PM Milan and Venice, Italy	quartz filter, impactor	MiSeq
Med_sea	DeLeon-Rodriguez 2013	SRR521978 SRR521980 SRR521983	PM Mediterranean Sea	vacuum pump, cellulose nitrate membrane	454
home	Vestergaard et al. 2018	SRR6262841.fastq SRR6262842.fastq SRR6262843.fastq	PM indoor air suburban home and pigsty Aarhus, Denmark	electrostatic dust fall collector	Miseq
office	Adams et al. 2015	SRR1638542.fastq SRR1638543.fastq SRR1638544.fastq	PM indoor air occupied office Berkeley, USA	vacuum pump, cellulose nitrate membrane	MiSeq
AMS, CAP, CHC, Grenoble, PDD (dark red), PDM, STP, STN	Tignat-Perrier et al. 2019	S101, S102, S103, S108, S109, S111, S10, S11, S12, S141, S142, S143, S155, S156, S157, S180, S184, S185, S23, S25, S26, S361, S362, S86, S70, S71, S72	PM Amsterdam-Island or AMS, Cape-Point in South-Africa or CAP, Chacaltaya in Bolivia or CHC, Grenoble in France, puy de Dôme in France or PDD, Pic du Midi in France or PDM, Storm-Peak in Colorado (USA) or STP, Station-Nord in Greenland or STN	quartz filter, impactor	Miseq

*PM=particulate matter

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