

21 Table S6 Factor level coding table

Code	Factor		
	Particle size(mm)	Centrifugal speed(r/min)	Flux (grain/s)
γ	5	1200	5000
1	4.19	1078.38	4189.21
0	3	900	3000
-1	1.81	721.62	1810.79
$-\gamma$	1	600	1000

22 γ or $-\gamma$ is the star arm, representing the maximum or minimum level of coding.

23