

Dataset	Objects	Features	Clusters	0% CS							
				PCCC-N2-S	PCCC-N5-S	PCCC-N2-S-RD	COPKM	LCC	CSC	DILS	KMEANS
Banana	5,300	2	2	4.9	5.2	6.3	1.0	–	5,208.4	3,849.2	0.0
Letter	20,000	16	26	139.4	282.0	149.0	1,023.6	–	–	4,450.1	0.5
Shuttle	57,999	9	7	31.2	163.9	146.8	233.5	–	–	–	0.3
CIFAR 10	60,000	3,072	10	319.7	1,717.3	3,344.0	–	–	–	–	16.8
CIFAR 100	60,000	3,072	100	1,063.6	3,625.8	3,618.4	–	–	–	–	84.6
MNIST	70,000	784	10	159.7	2,188.4	2,766.2	3,715.8	–	–	–	4.5
Sum				1,718.5	7,982.6	10,030.8	12,173.9*	21,600.0*	23,208.4*	22,699.4*	106.7

*Nan values (–) are replaced with 3,600 before computing the sum.

Table W116: Average running times (in seconds) of the versions of the PCCC algorithm and the four state-of-the-art algorithms (COPKM, CSC, DILS, LCC) for the constraint sets of size 0% CS. Higher values indicate better separated clusters. The lowest values are stated in bold. The column KMEANS reports the average running time of the unconstrained k-means algorithm. The hyphen indicates that the respective algorithm returned no solution within the time limit of 1,800 seconds.