

Dataset	Objects	Features	Clusters	1% CS							
				PCCC-N2-S	PCCC-N5-S	PCCC-N2-S-RD	COPKM	LCC	CSC	DILS	KMEANS
Banana	5,300	2	2	<b>6.8</b>	<b>6.8</b>	22.7	–	114.5	3,774.8	3,629.6	0.1
Letter	20,000	16	26	<b>79.4</b>	317.2	260.7	841.7	3,785.3	–	4,568.9	0.5
Shuttle	57,999	9	7	<b>13.3</b>	48.5	35.9	–	–	–	–	0.3
CIFAR 10	60,000	3,072	10	<b>1,128.2</b>	1,415.7	1,801.4	–	–	–	–	16.9
CIFAR 100	60,000	3,072	100	3,628.1	3,628.3	<b>3,611.7</b>	–	–	–	–	83.9
MNIST	70,000	784	10	<b>960.4</b>	2,348.1	2,920.2	–	–	–	–	4.1
Sum				<b>5,816.2</b>	7,764.6	8,652.5	18,841.7*	18,299.8*	21,774.8*	22,598.5*	105.9

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

Table W118: 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 1% 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.