

Table 10: The power of competitors (rows 3–7), along with the minimum  $p$ -value statistic based on DDP (row 1) and on ADP (row 2) and the different maximum variants (rows 8–11), for  $N = 100$ . The standard error is at most 0.011.

	Test	Line	Exp2x	Exp10x	Sigmoid
$\min_{m \in \{2, \dots, 10\}} p_m$	using DDP	0.358	0.763	0.580	0.543
$\min_{m \in \{2, \dots, 10\}} p_m$	using ADP	0.365	0.760	0.555	0.550
	Spearman	0.459	0.758	0.396	0.630
	Hoeffding	0.446	0.750	0.409	0.637
	MIC	0.282	0.198	0.312	0.130
	dCov	0.433	0.746	0.395	0.637
	HHG	0.337	0.706	0.509	0.545
	$M_{2 \times 2}^{DDP}$	0.287	0.688	0.678	0.438
	$M_{3 \times 3}^{DDP}$	0.203	0.579	0.569	0.355
	$M_{4 \times 4}^{DDP}$	0.177	0.511	0.479	0.301
	$M_{2 \times 2}^{ADP}$	0.294	0.715	0.746	0.440

see that although dCov on data may have more power than dCov on ranks, it has far less power than HHG on data, and that HHG on data has less power than our test when the relationship is more complex, especially in the Sine, Heavisine, Spiral and Circles examples.

## References

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