Table J.2. Computational complexity of log-determinant estimation methods. We count one FLOP as one fused multiply-add (FMA) operation.

Method	Complexity	Description
MEMDET	$\frac{1}{6}m^3 - \frac{1}{4}m^2 + \frac{1}{12}m$	m : Full matrix size, $m = nd$
FLODANCE	$\frac{1}{6}m_s^3 - \frac{1}{4}m_s^2 + \frac{1}{12}m_s + (q+3)^2 n_s$	n_s : Number of sampled data points from n m_s: Sampled matrix size, $m_s = n_s d$ q : Truncation order of Laurent series
SLQ	$(m^2 l + m l^2)s$	l : Lanczos iterations (Krylov subspace size) s : Number of Monte Carlo samples
Pseudo NTK	$\frac{1}{6}\left(\frac{m}{d}\right)^3 - \frac{1}{4}\left(\frac{m}{d}\right)^2 + \frac{1}{12}\left(\frac{m}{d}\right) + m^2$	m : Full matrix size d : Number of model outputs
Block Diagonal	$\frac{1}{6}md^2 - \frac{1}{4}md + \frac{1}{12}m$	m : Full matrix size d : Number of model outputs