Table 1: SSL Comparison: MNIST: Average (standard deviation) classification accuracy over 100 trials.

# Labels per class	1	2	3	4	5
High order Laplace LearningN $= 10$ m $= 0.1$	61.5 (5.4)	65.3 (4.1)	68.6 (2.6)	69.8 (2.1)	69
High order Laplace learning $N=20$ m $=0.1$	57.3(5.0)	63.2(4.8)	67.8(3.4)	69.5 (3.1)	70
High order Laplace learning $N=30$ m $=0.1$	52.4(5.2)	60.2(4.6)	65.9(3.4)	67.9 (3.2)	70
High order Laplace LearningN $=40$ m $=0.1$	49.6 (4.5)	57.4 (4.1)	63.4 (3.5)	65.6 (3.0)	67
High order Laplace learning $N=50$ $M=0.1$	47.6(4.3)	55.4(3.9)	61.3 (3.2)	63.8 (2.9)	66
High order Laplace learning $N=10$ $M=0.2$	61.6(5.3)	65.5(4.1)	68.7(2.6)	69.8 (2.1)	69
High order Laplace learningN $= 20$ m $= 0.2$	58.2(5.0)	64.0 (4.7)	68.4(3.3)	70.0(3.0)	71
High order Laplace learning $N=30$ $M=0.2$	54.1 (5.2)	61.7(4.5)	67.0(3.2)	68.9(2.9)	70
High order Laplace LearningN $=40$ M $=0.2$	51.4(4.6)	59.2(4.1)	64.9(3.4)	67.1(2.9)	69
High order Laplace learning $N=50$ m $=0.2$	49.8(4.4)	57.6(3.9)	63.4(3.1)	65.6(2.8)	67
High order Laplace LearningN $= 10$ m $= 0.300000000000000000000000000000000000$	$4 61.6 \ (5.2)$	65.6(4.1)	68.6 (2.6)	69.7(2.2)	69
High order Laplace LearningN $= 20$ m $= 0.300000000000000000000000000000000000$	` /	64.7 (4.6)	68.8 (3.2)	70.3(2.9)	71
High order Laplace LearningN $=30$ M $=0.300000000000000000000000000000000000$	$4 55.8 \ (5.1)$	63.0 (4.4)	67.9(3.1)	69.7(2.8)	71
High order Laplace LearningN = 40 M = $0.300000000000000000000000000000000000$, ,	60.8 (4.0)	66.2 (3.2)	68.2(2.8)	70
High order Laplace LearningN = 50 m = $0.300000000000000000000000000000000000$	4 52.0 (4.4)	59.6 (3.8)	65.1 (3.0)	$67.1\ (2.7)$	69
High order Laplace LearningN $= 10$ m $= 0.4$	61.7 (5.2)	65.6 (4.1)	68.5 (2.6)	69.5(2.2)	69
High order Laplace learning $N=20$ m $=0.4$	59.6 (4.9)	65.2 (4.6)	69.1 (3.1)	70.5(2.8)	71
High order Laplace learning $N=30$ $M=0.4$	57.2 (5.0)	64.0 (4.3)	68.5(2.9)	70.2 (2.7)	71
High order Laplace learning $N=40$ $M=0.4$	54.9 (4.5)	62.2 (4.0)	67.3 (3.1)	69.0 (2.7)	70
High order Laplace learningN $= 50$ m $= 0.4$	54.0 (4.4)	61.2 (3.8)	66.3(2.9)	(/	70
High order Laplace learning $N=10$ $M=0.5$	61.6 (5.2)	65.5 (4.1)	68.4 (2.6)	69.4 (2.2)	69
High order Laplace LearningN $= 20$ m $= 0.5$	60.1 (4.8)	65.5 (4.5)	69.3(3.0)	70.6(2.8)	71
High order Laplace Learning $N=30$ $M=0.5$	58.3 (4.8)	64.7 (4.3)	69.0 (2.8)	70.5(2.6)	72
High order Laplace Learning $N=40$ M $=0.5$	56.3 (4.5)	63.3 (4.0)	68.1 (3.0)	69.6 (2.6)	71
High order Laplace learning $N=50$ M $=0.5$	55.6 (4.4)	62.5 (3.8)	67.3 (2.8)	69.0 (2.6)	70
High order Laplace learning $N=10$ $M=0.6$	61.5 (5.2)	65.4 (4.0)	68.3 (2.7)	69.1 (2.3)	69
High order Laplace learning $N=20$ M = 0.6	60.5 (4.8)	65.7 (4.5)	69.4 (2.9)	70.7 (2.7)	71
High order Laplace LearningN = 30 M = 0.6	59.0 (4.7)	65.2 (4.2)	69.3 (2.8)	70.8 (2.6)	72
High order Laplace LearningN = 40m = 0.6	57.5 (4.5)	64.1 (4.0)	68.6 (2.9)	70.1 (2.5)	71
HIGH ORDER LAPLACE LEARNINGN = 50M = 0.6	56.9 (4.4)	63.4 (3.8)	68.0 (2.8)	69.5 (2.5)	71
High order Laplace learning $N = 10M = 0.70000000000000000000000000000000000$	61.3 (5.2)	65.2 (4.0)	68.1 (2.7)	68.8 (2.3)	69
HIGH ORDER LAPLACE LEARNINGN = $20M = 0.70000000000000000000000000000000000$	60.7 (4.8)	65.8 (4.4)	69.4 (2.8)	70.6 (2.6)	$71 \\ 72$
HIGH ORDER LAPLACE LEARNINGN = $30M = 0.70000000000000000000000000000000000$	59.6 (4.7) 58.3 (4.6)	65.5 (4.2) $64.7 (4.0)$	69.4 (2.7)	70.9 (2.5)	71
High order Laplace LearningN = 40 m = 0.700000000000000001 High order Laplace LearningN = 50 m = 0.70000000000000001	57.8 (4.5)	64.7 (4.0) $64.1 (3.8)$	69.0 (2.8) 68.5 (2.7)	70.3 (2.5) 69.9 (2.5)	71
High order Laplace learning $N=50 M=0.700000000000000000000000000000000000$	61.1 (5.2)	65.0 (4.0)	67.8 (2.7)	68.5 (2.4)	68
HIGH ORDER LAPLACE LEARNINGN = 10M = 0.8	60.8 (4.8)	65.8 (4.4)	69.3 (2.1)	70.5 (2.4)	71
HIGH ORDER LAPLACE LEARNINGN = 20M = 0.8	59.9 (4.7)	65.6 (4.4)	69.5 (2.7)		72
High order Laplace learning $N = 30M = 0.8$	58.9 (4.6)	65.0 (4.2) $65.0 (3.9)$	69.2 (2.7)	70.5 (2.5) $70.5 (2.5)$	$\frac{12}{72}$
High order Laplace learning $N = 40M = 0.8$	58.5 (4.5)	64.6 (3.8)	68.8 (2.7)	70.3 (2.5) $70.1 (2.5)$	71
High order Laplace learning $N = 50M = 0.0$ High order Laplace learning $N = 10M = 0.9$	60.8 (5.2)	64.7 (4.0)	67.5 (2.8)	68.0 (2.4)	68
High order laplace learning $N = 10M = 0.5$	60.8 (4.8)	65.6 (4.3)	69.2 (2.7)	70.3 (2.5)	71
High order laplace learning $N=30 M=0.9$	60.1 (4.6)	65.7 (4.1)	69.4 (2.6)	70.7 (2.4)	71
High order Laplace LearningN = 40 m = 0.9	59.4 (4.6)	65.2 (3.9)	69.3 (2.6)	70.5 (2.5)	71
High order Laplace learning $N=50$ m $=0.9$	59.0 (4.5)	64.9 (3.8)	69.0 (2.6)	70.2 (2.4)	71
High order Laplace learningN $= 10$ m $= 1.0$	60.4 (5.2)	64.2 (4.0)	67.1 (2.8)	67.5 (2.5)	68
High order Laplace learningN $= 20$ m $= 1.0$	60.7 (4.8)	65.4 (4.3)	68.9 (2.7)	70.0 (2.5)	70
High order Laplace LearningN $=30$ m $=1.0$	60.3 (4.6)	65.6 (4.1)	69.3 (2.6)	70.4 (2.4)	71
High order Laplace LearningN $=40$ m $=1.0$	59.6 (4.6)	65.3 (3.9)	69.2 (2.6)	70.3 (2.5)	71
High order laplace learningN $= 50$ m $= 1.0$	59.4 (4.5)	$65.0\ (3.8)$	69.0 (2.6)	70.1(2.4)	71
High order laplace learningN $=10$ m $=1.1$	$60.0\ (5.2)$	$63.7\ (3.9)$	66.6(2.9)	66.9(2.6)	67
High order laplace learningN $=20$ m $=1.1$	60.5(4.7)	65.1(4.2)	$68.5\ (2.7)$	69.5(2.4)	70
High order laplace learningN $=30$ m $=1.1$	60.3(4.6)	65.4(4.0)	68.9(2.6)	70.0 (2.4)	7
High order Laplace learningN $=40$ m $=1.1$	59.8(4.6)	$65.2\ (3.9)$	$69.0\ (2.6)$	70.0(2.5)	71
High order laplace learningN $=50$ m $=1.1$	$59.6\ (4.5)$	$65.0\ (3.8)$	68.8(2.6)	69.8 (2.4)	7
High order Laplace LearningN $= 10$ m $= 1.2000000000000000000000000000000000000$	$59.5\ (5.2)$	$63.0\ (3.9)$	$65.9\ (3.0)$	66.2(2.7)	66
High order Laplace LearningN $= 20$ m $= 1.2000000000000000000000000000000000000$	60.3(4.7)	64.7(4.2)	68.1 (2.8)	69.0 (2.4)	69
${\rm High\ order\ laplace\ learning} N = 30 {\rm m} = 1.200000 / 0000000002$	60.2(4.6)	$65.1\ (4.0)$	$68.5\ (2.6)$	69.5(2.4)	70
	59.8(4.5)	$65.0\ (3.9)$	68.6(2.6)	69.5(2.5)	70
High order Laplace LearningN $= 40$ M $= 1.2000000000000000000000000000000000000$	00.0 (1.0)	00.0 (0.0)	00.0 (2.0)	09.5 (2.5)	11