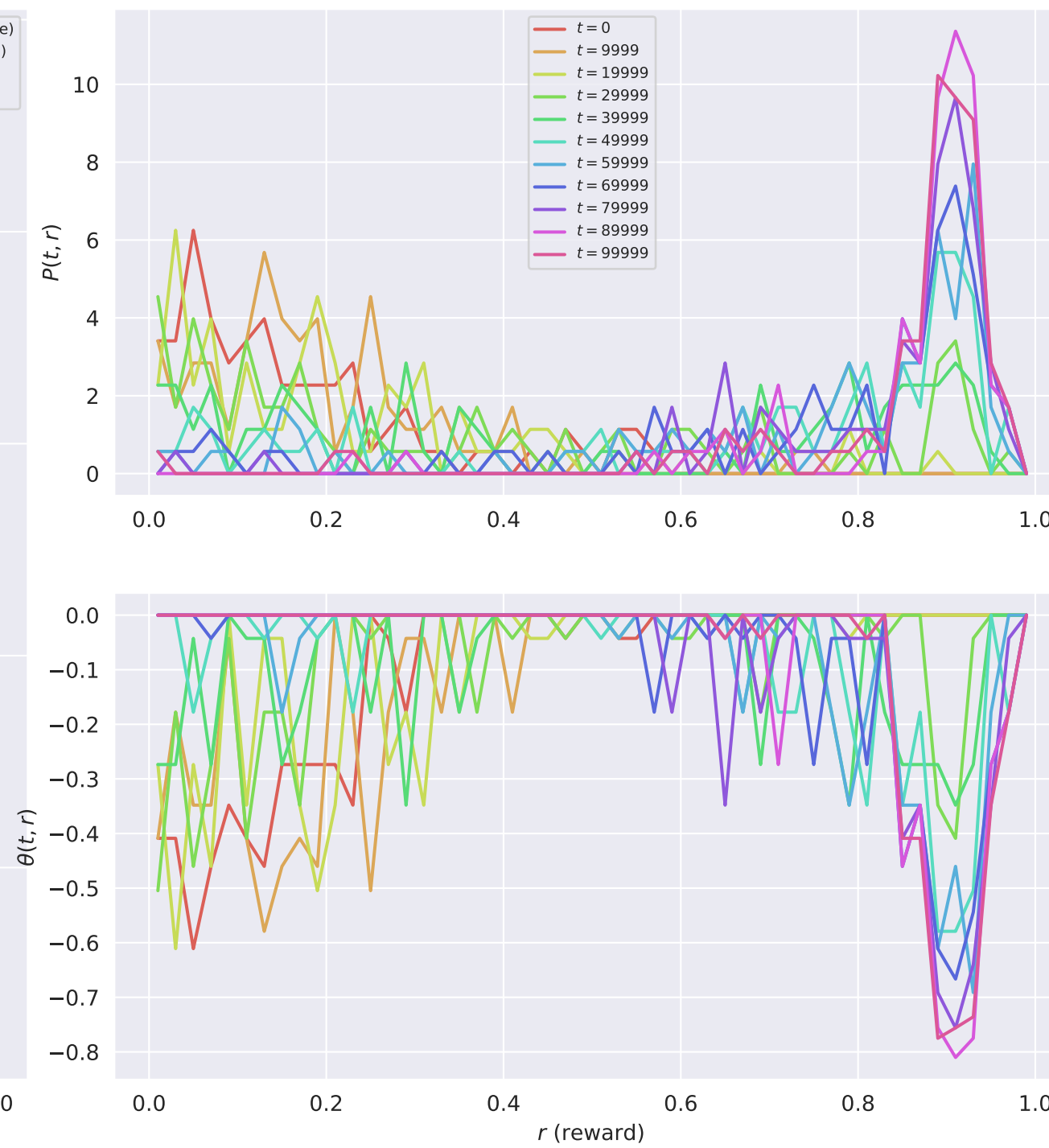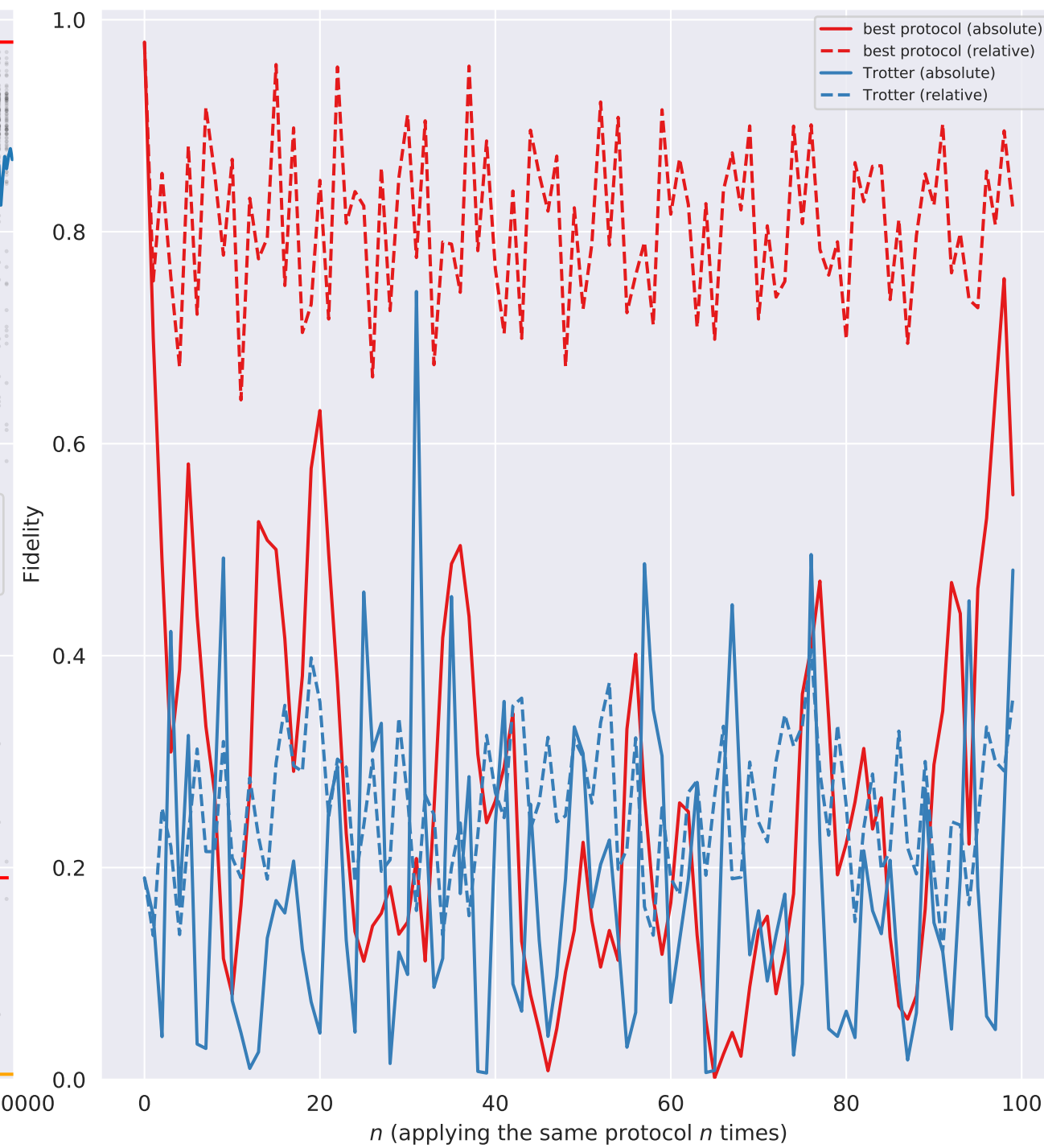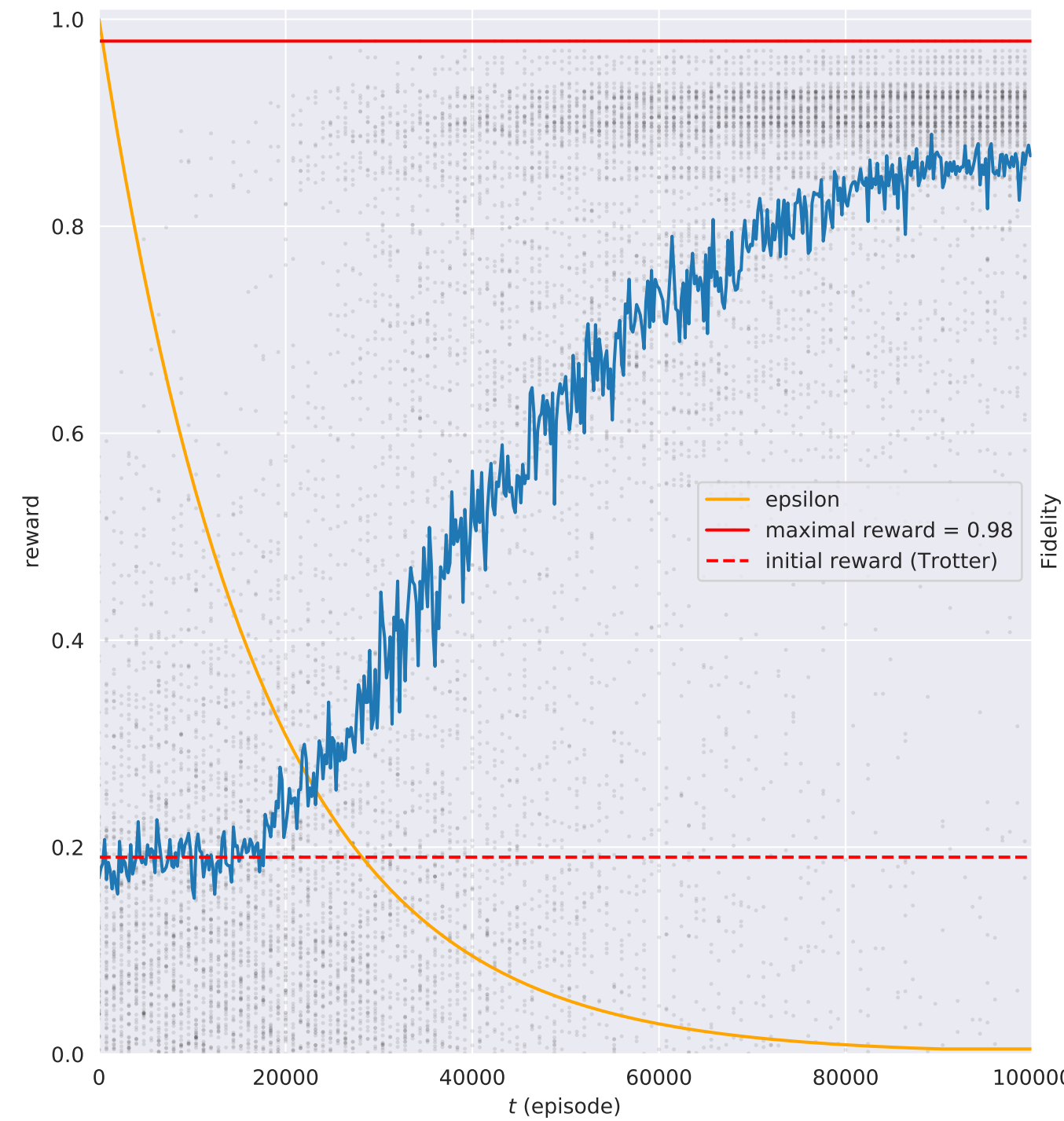17_q_learning, n_tasks=88/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
 'n_episodes': 100000,
 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 3,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
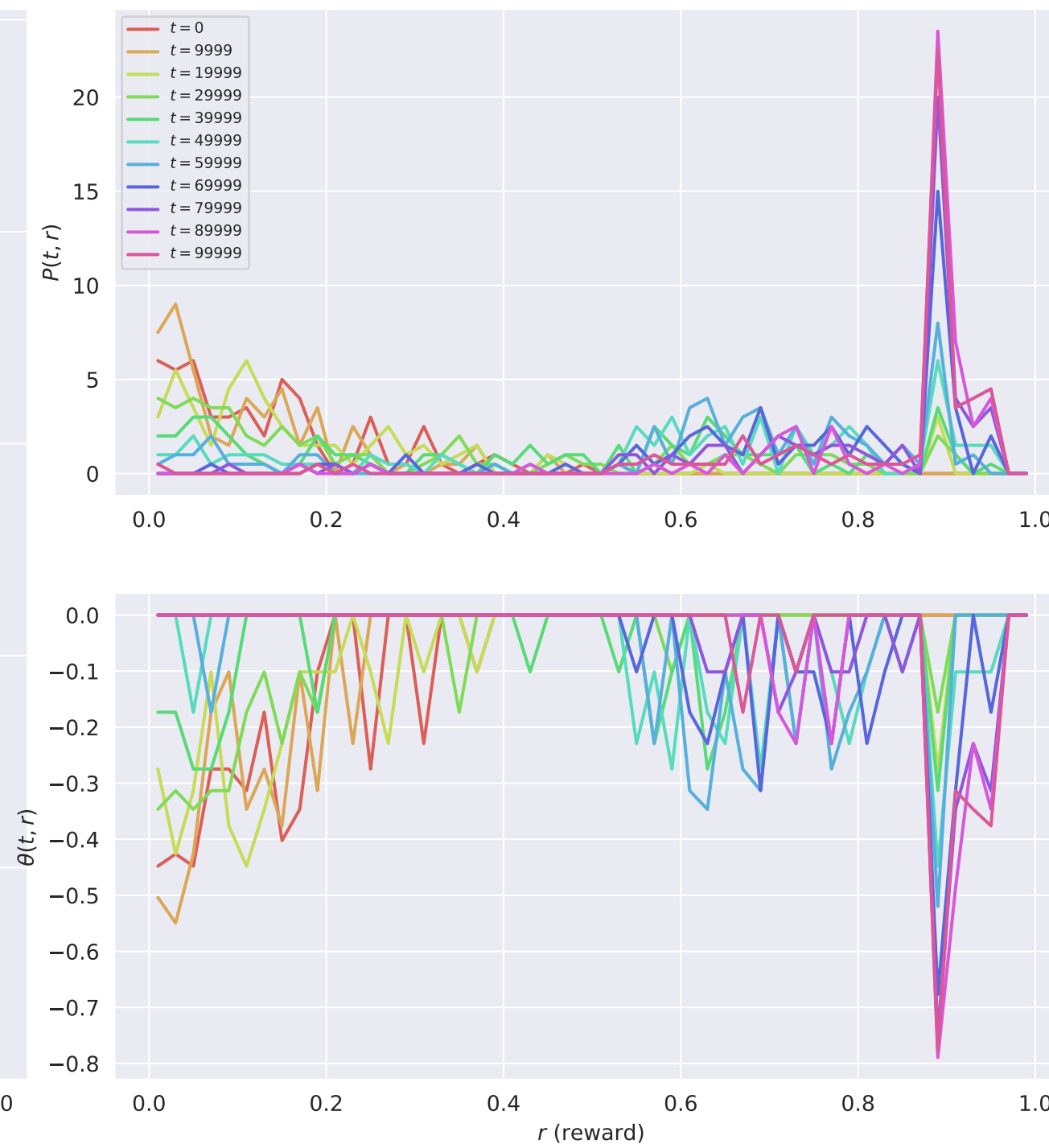 'system_class': 'LongRangeIsing',
 'time_segment': 1.0}

26_q_learning, n_tasks=88/100
{'bc': 'open',
'epsilon_decay': 0.9999411315398542,
'epsilon_max': 1.0,
'epsilon_min': 0.005,
'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
'initial_state': 'random_product_state',
'lam': 0.8,
'learning_rate': 0.618,
'model_update_spacing': 100,
'n_allqubit_actions': 9,
'n_directions': 2,
'n_episodes': 100000,
'n_oqbgate_parameters': 9,
'n_replays': 100,
'n_sites': 3,
'n_steps': 6,
'replay_spacing': 200,
'seed_initial_state': 42,
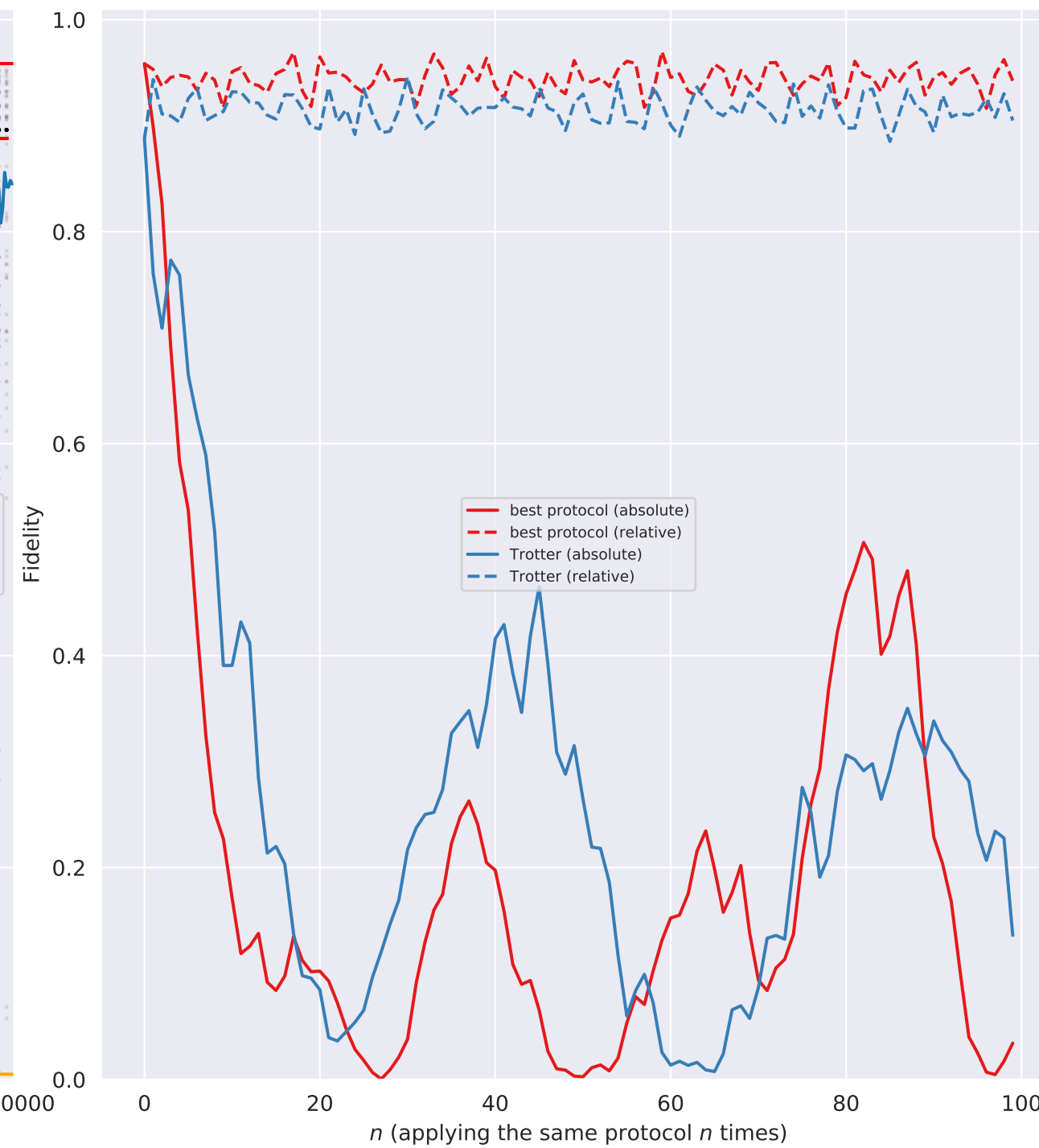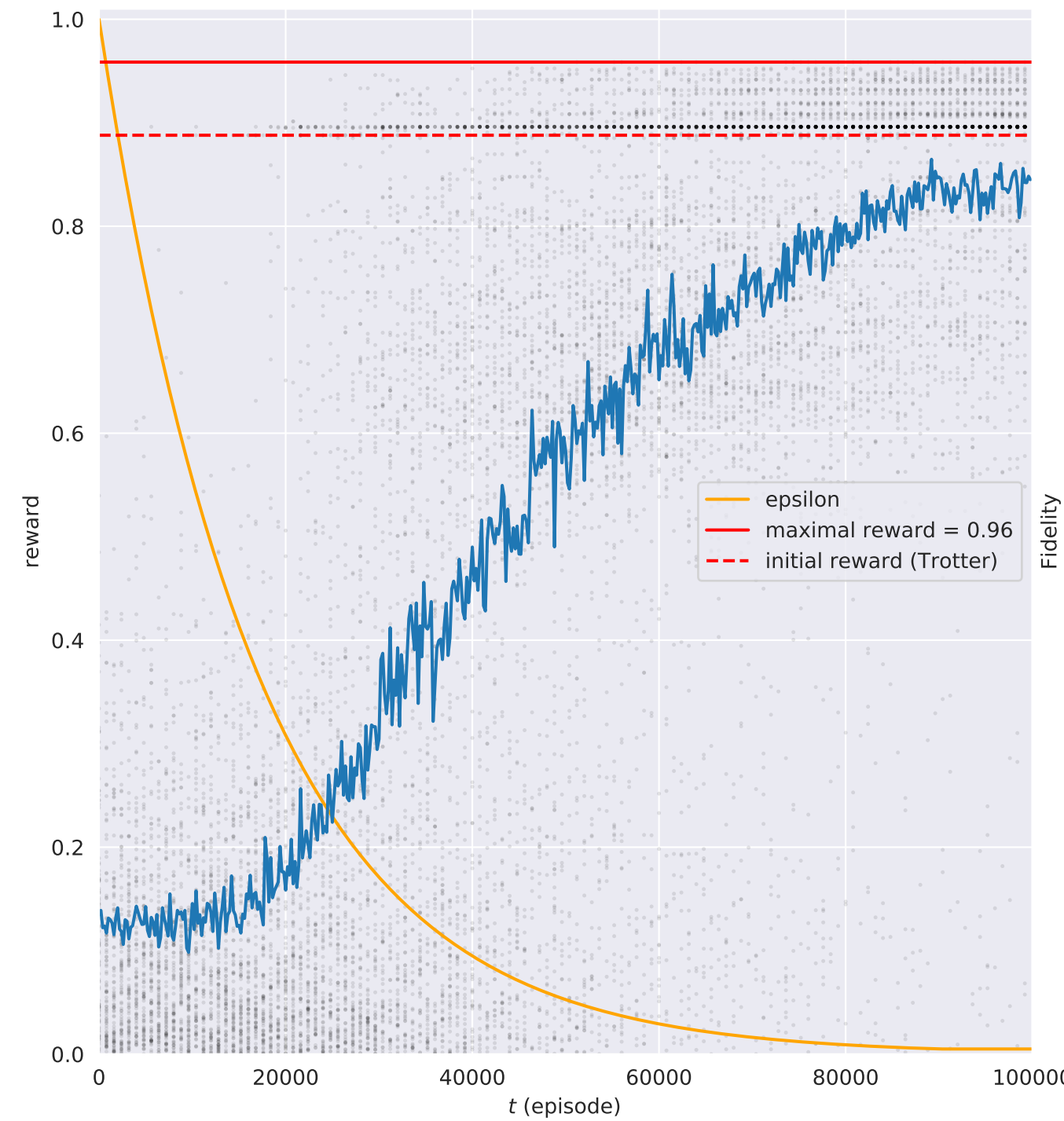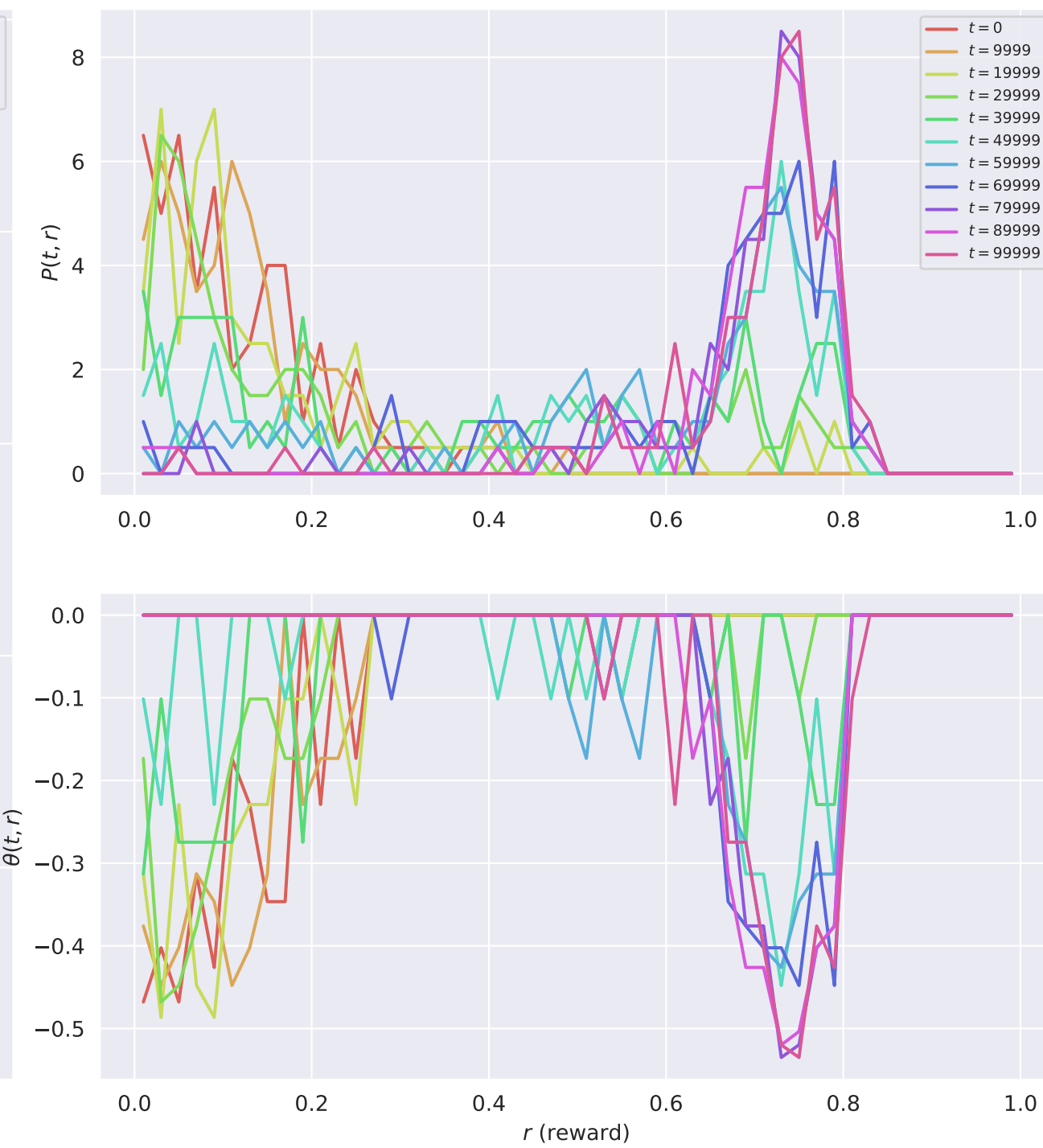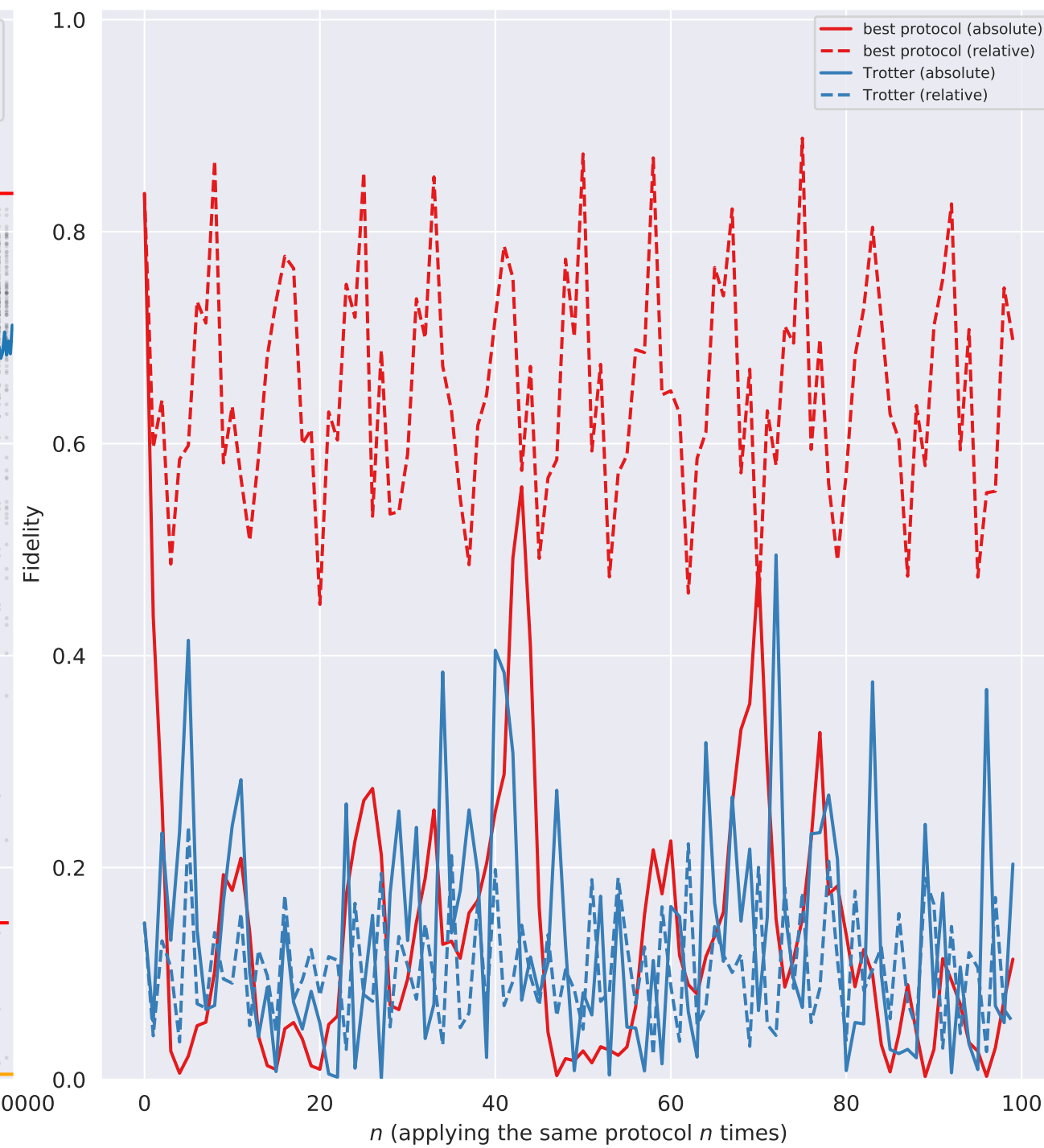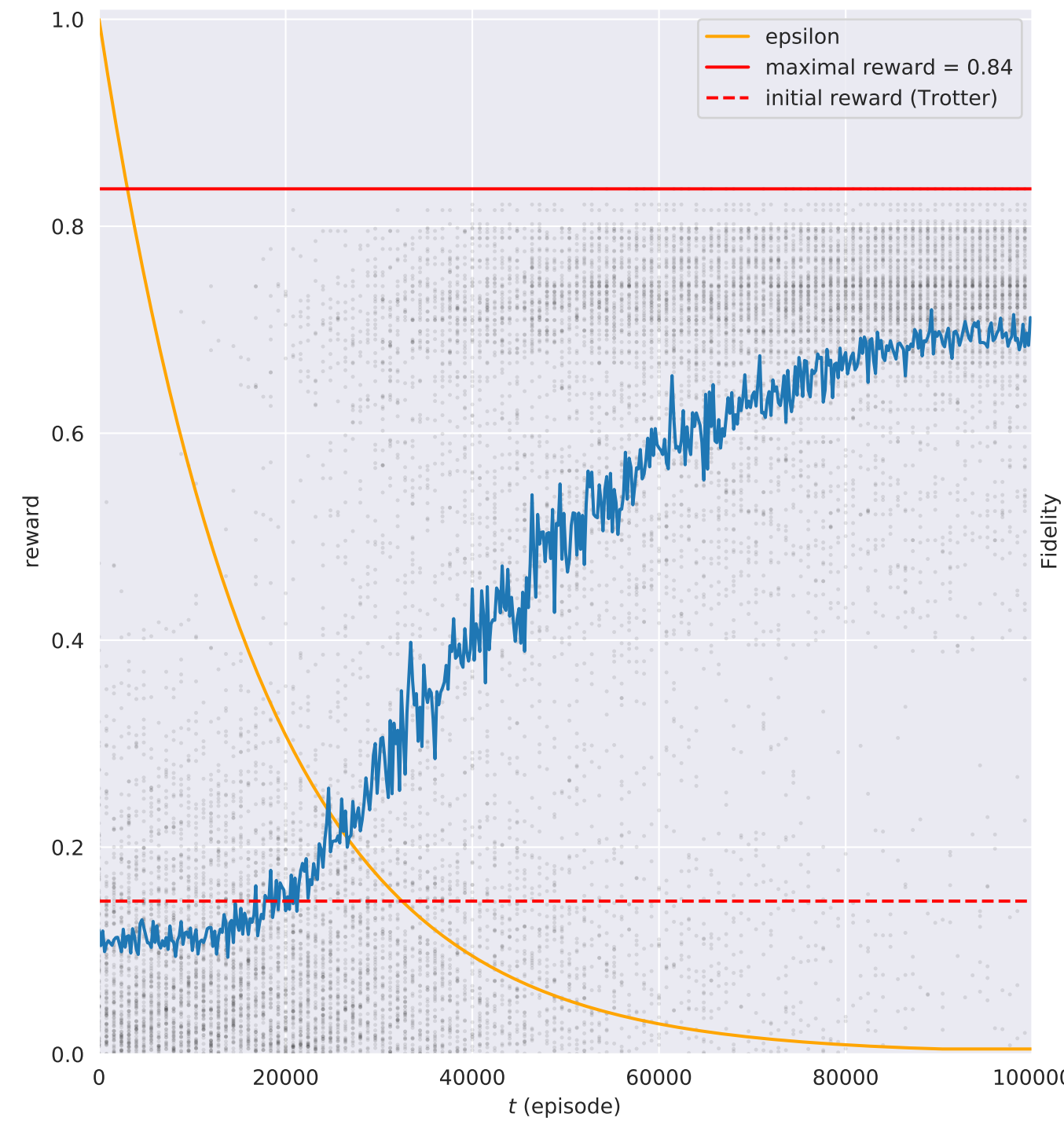'system_class': 'LongRangeIsing',
'time_segment': 100.0}

18_q_learning, n_tasks=100/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
 'n_episodes': 100000,
 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 4,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
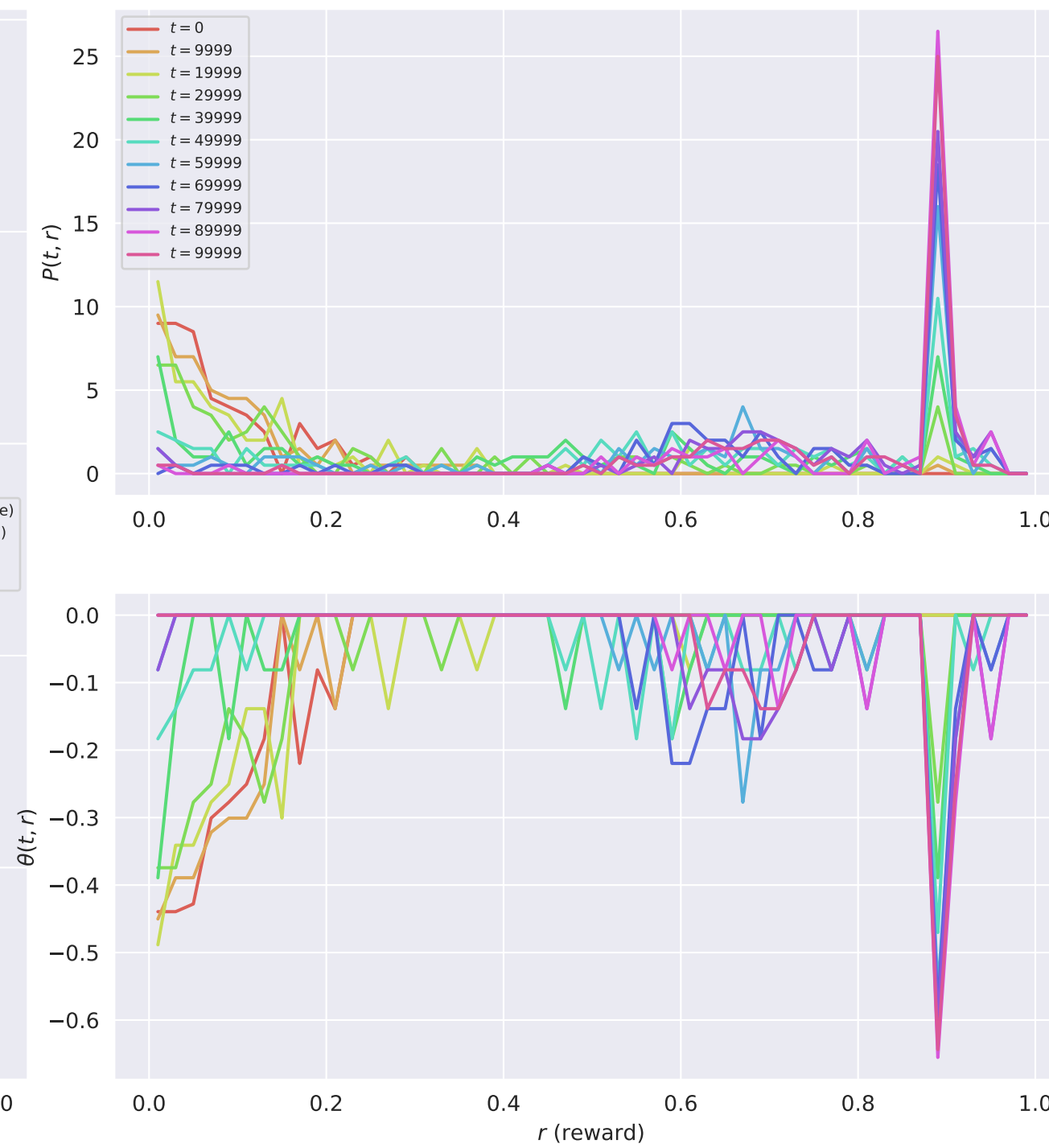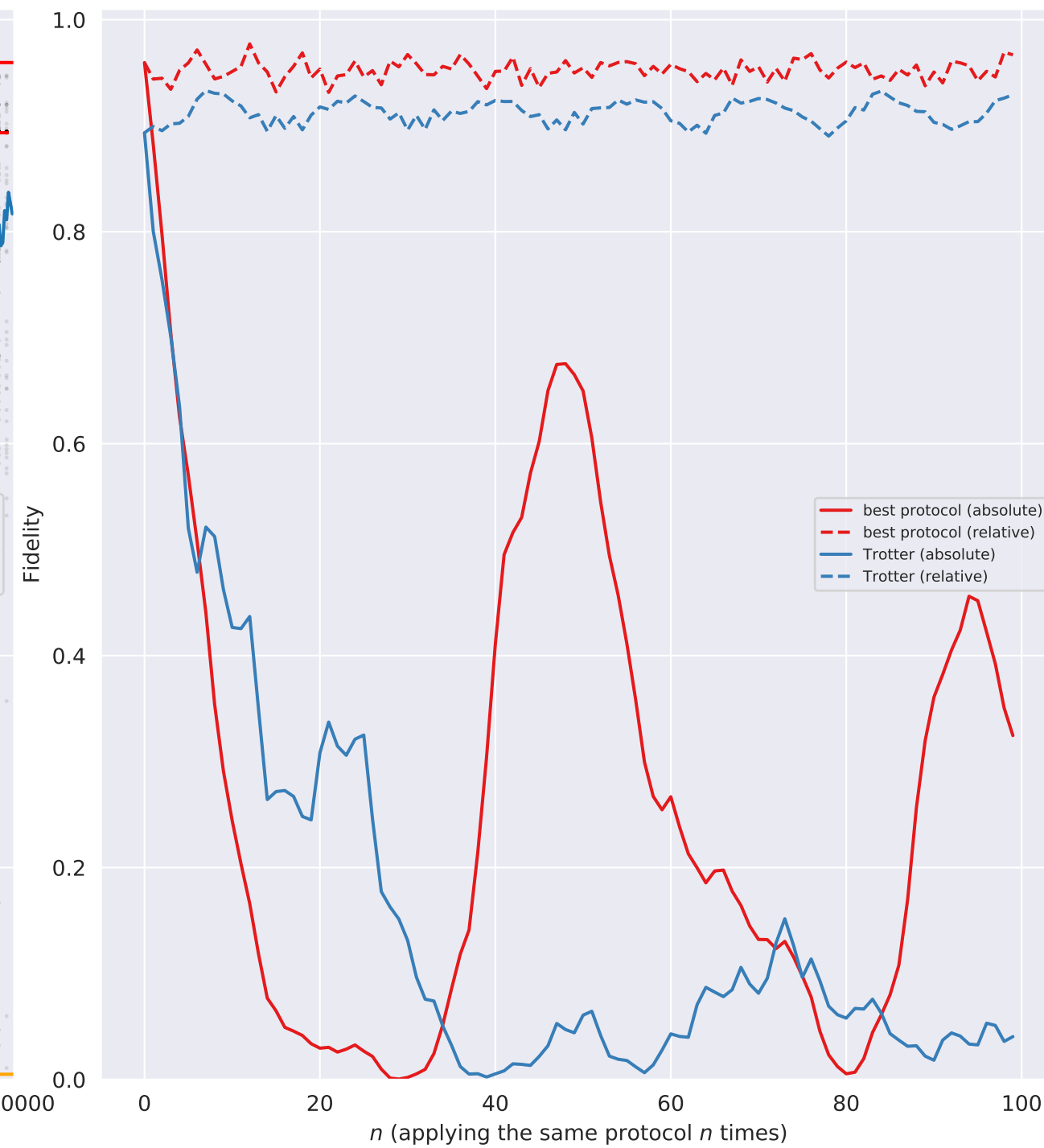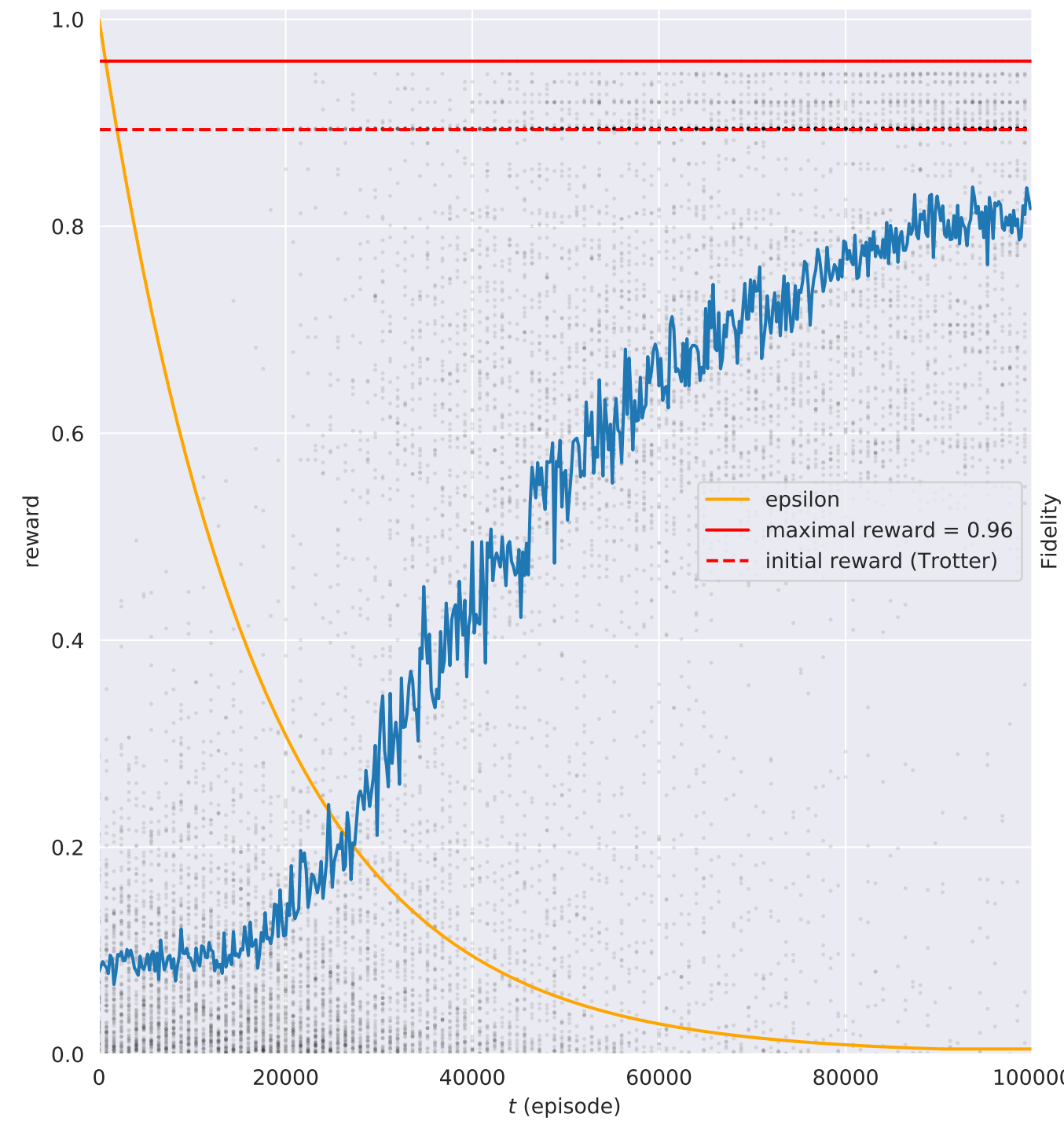 'system_class': 'LongRangeIsing',
 'time_segment': 1.0}

27_q_learning, n_tasks=100/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
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 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 4,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
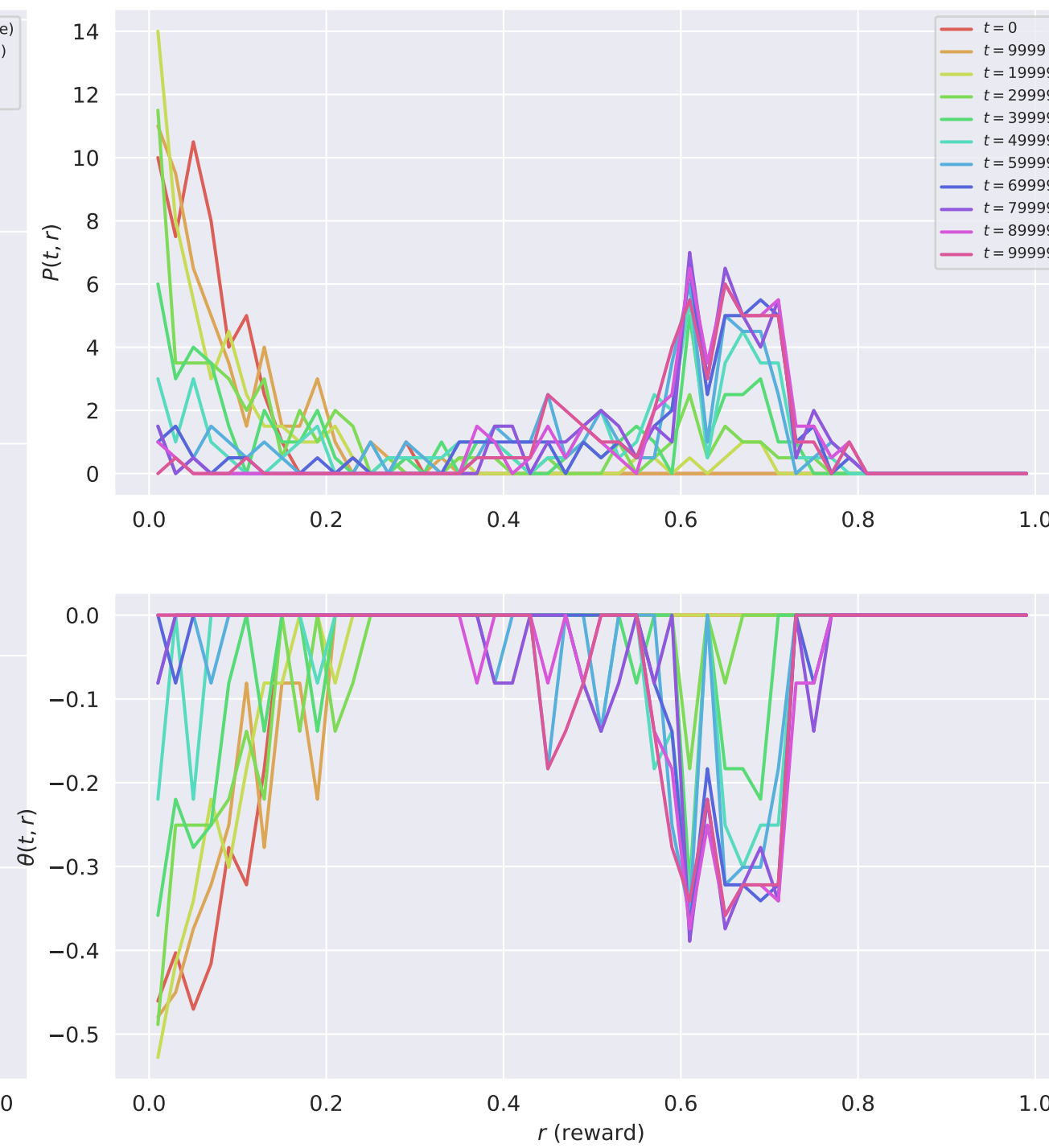 'system_class': 'LongRangeIsing',
 'time_segment': 100.0}

19_q_learning, n_tasks=100/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
 'n_episodes': 100000,
 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 5,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
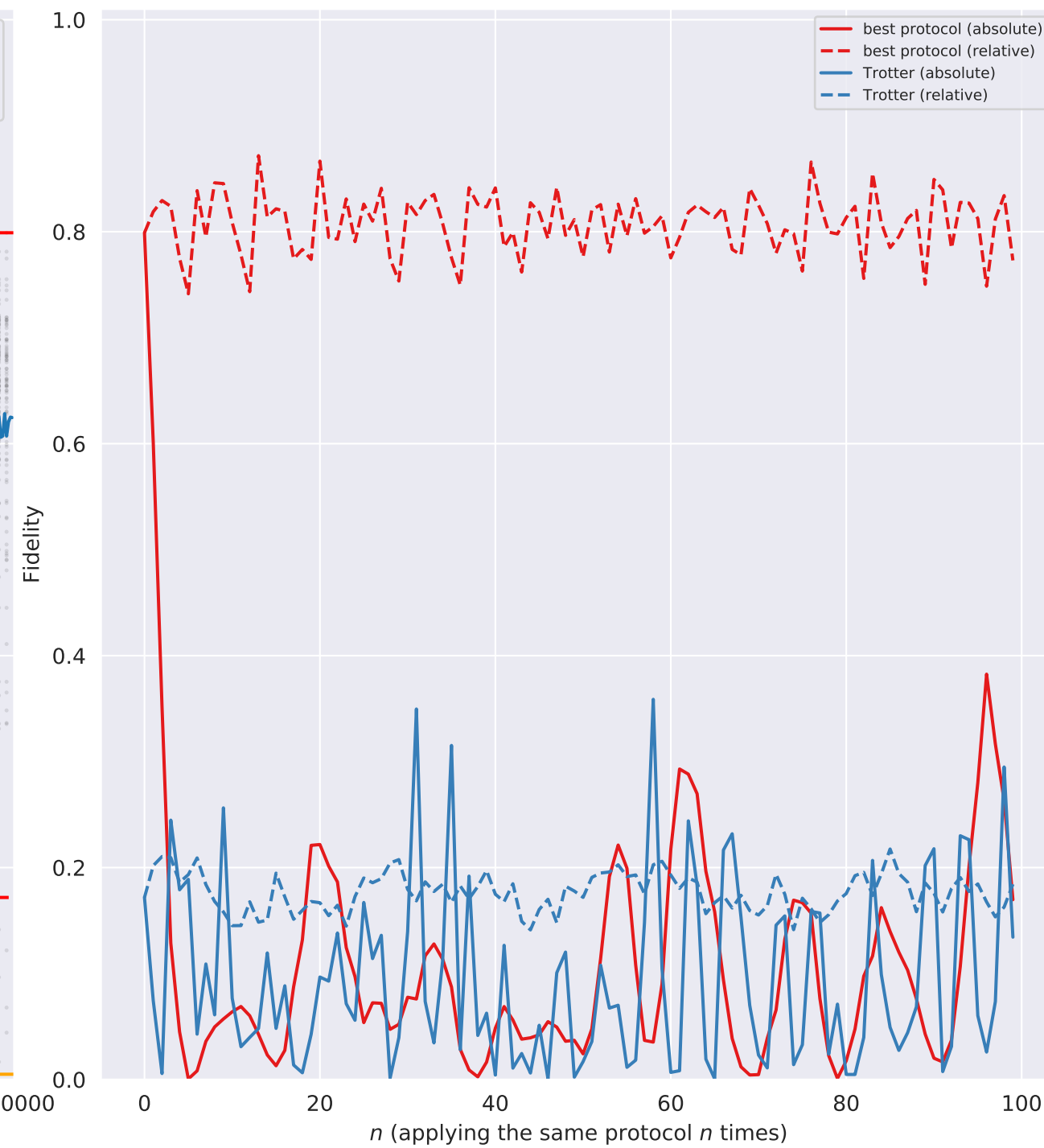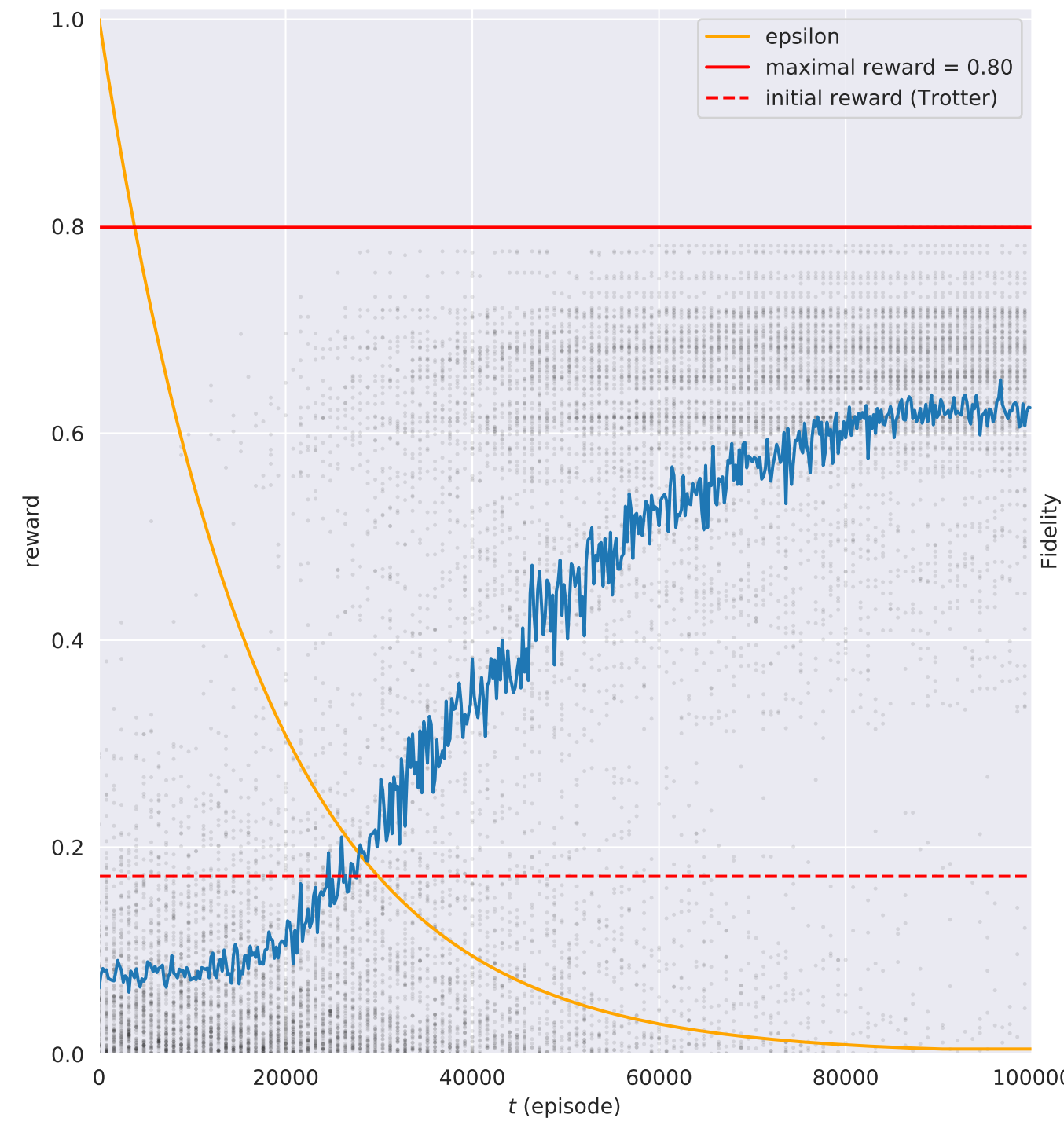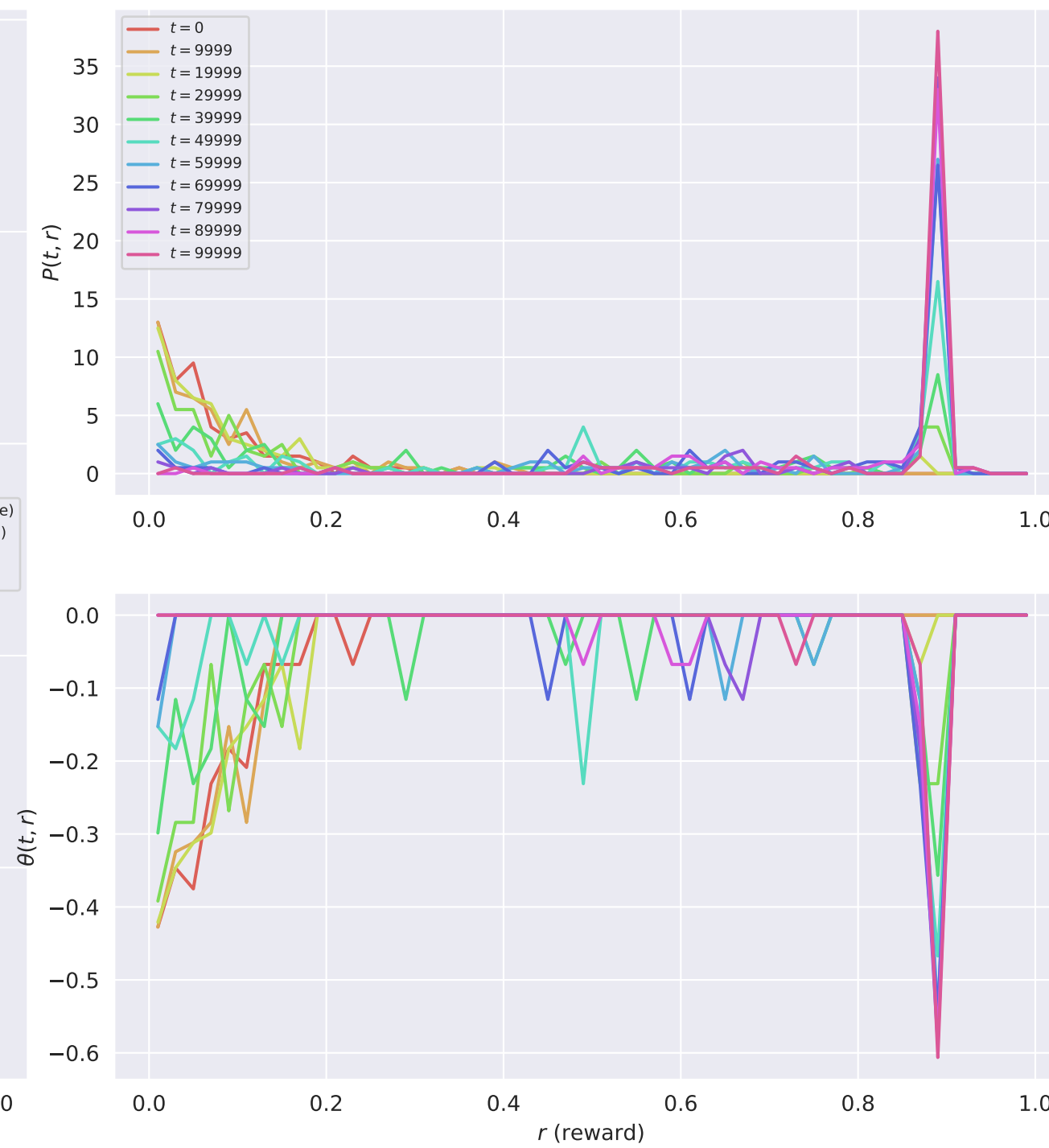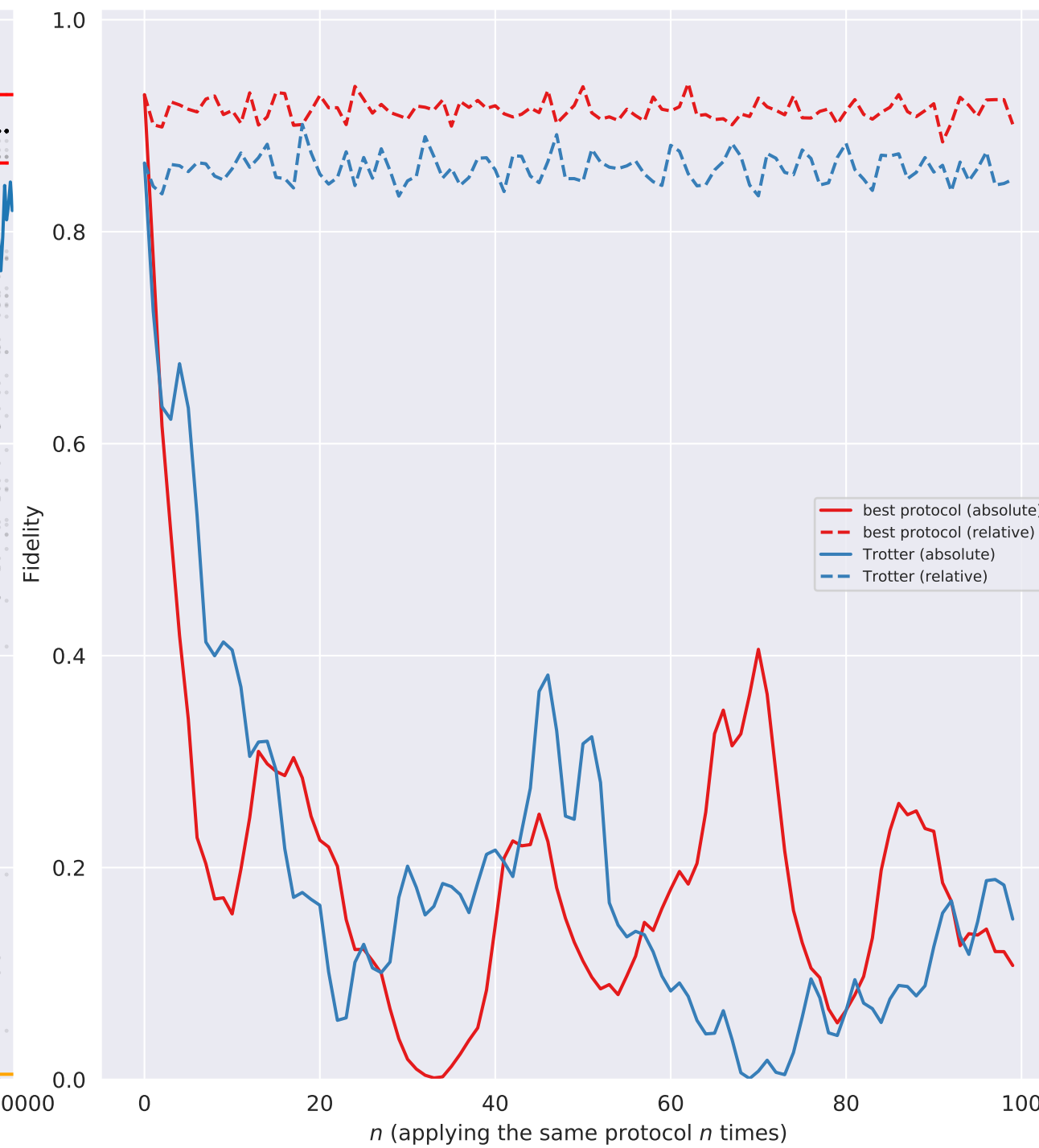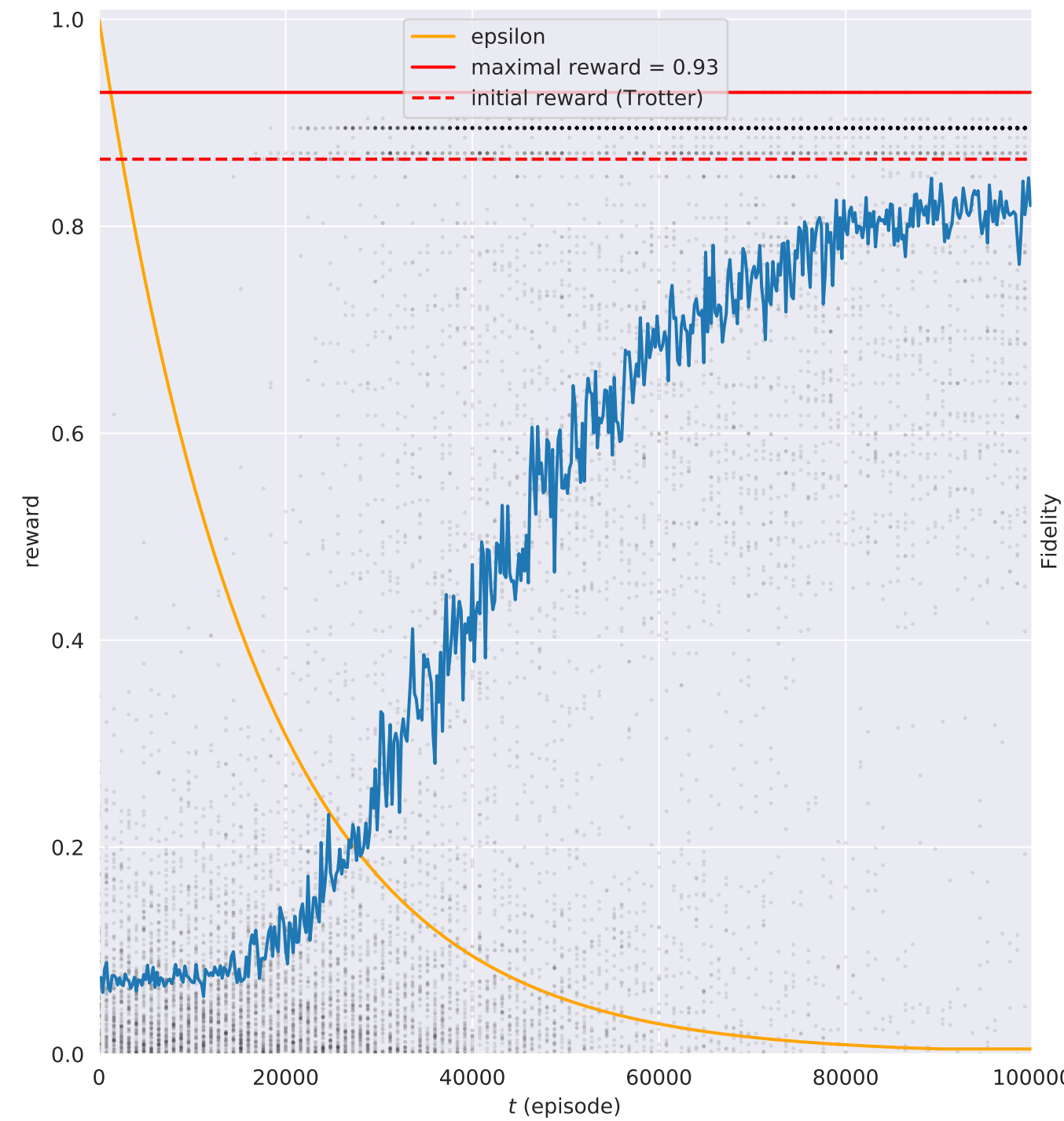 'system_class': 'LongRangeIsing',
 'time_segment': 1.0}

28_q_learning, n_tasks=100/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
 'n_episodes': 100000,
 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 5,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
 'system_class': 'LongRangeIsing',
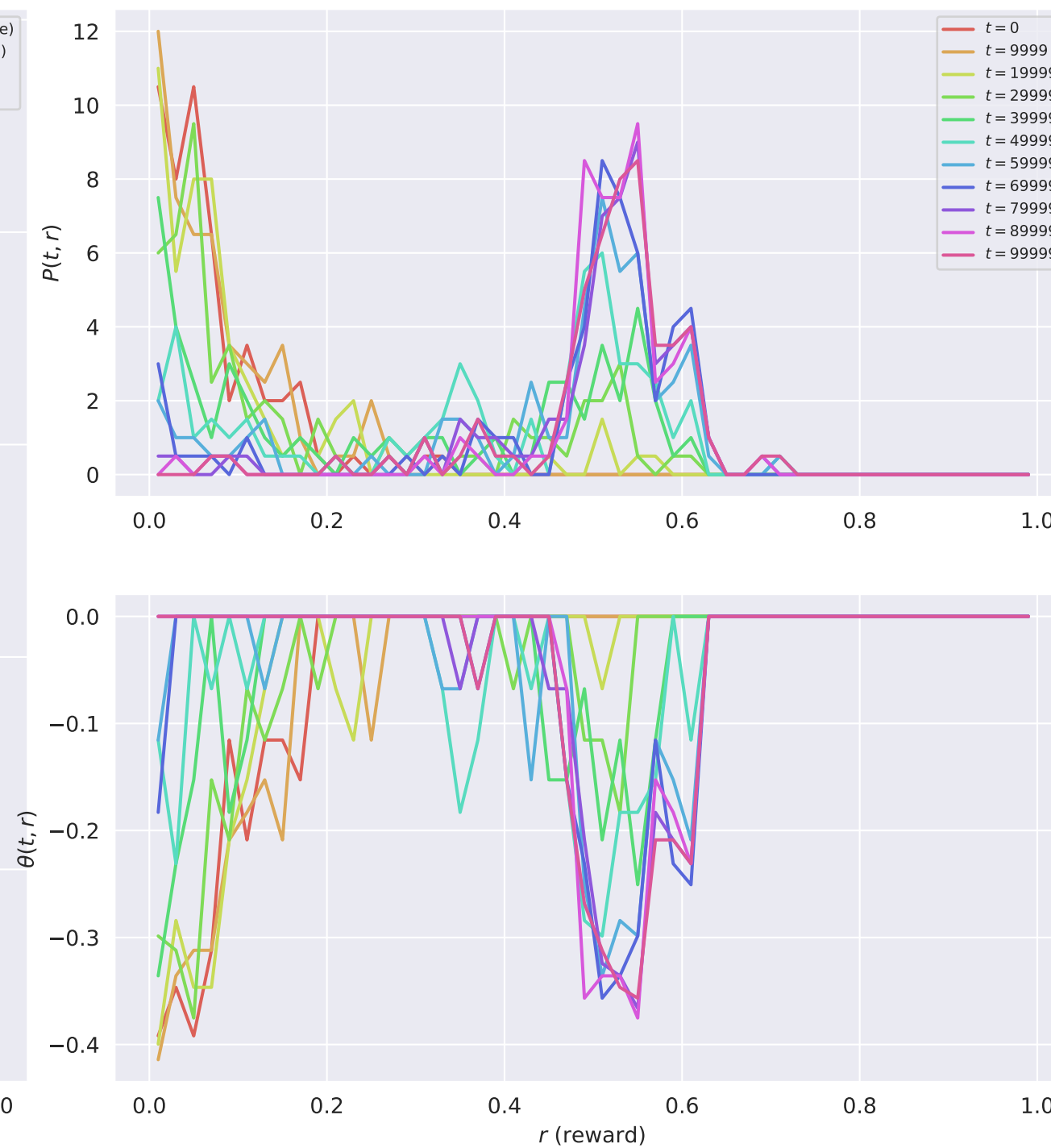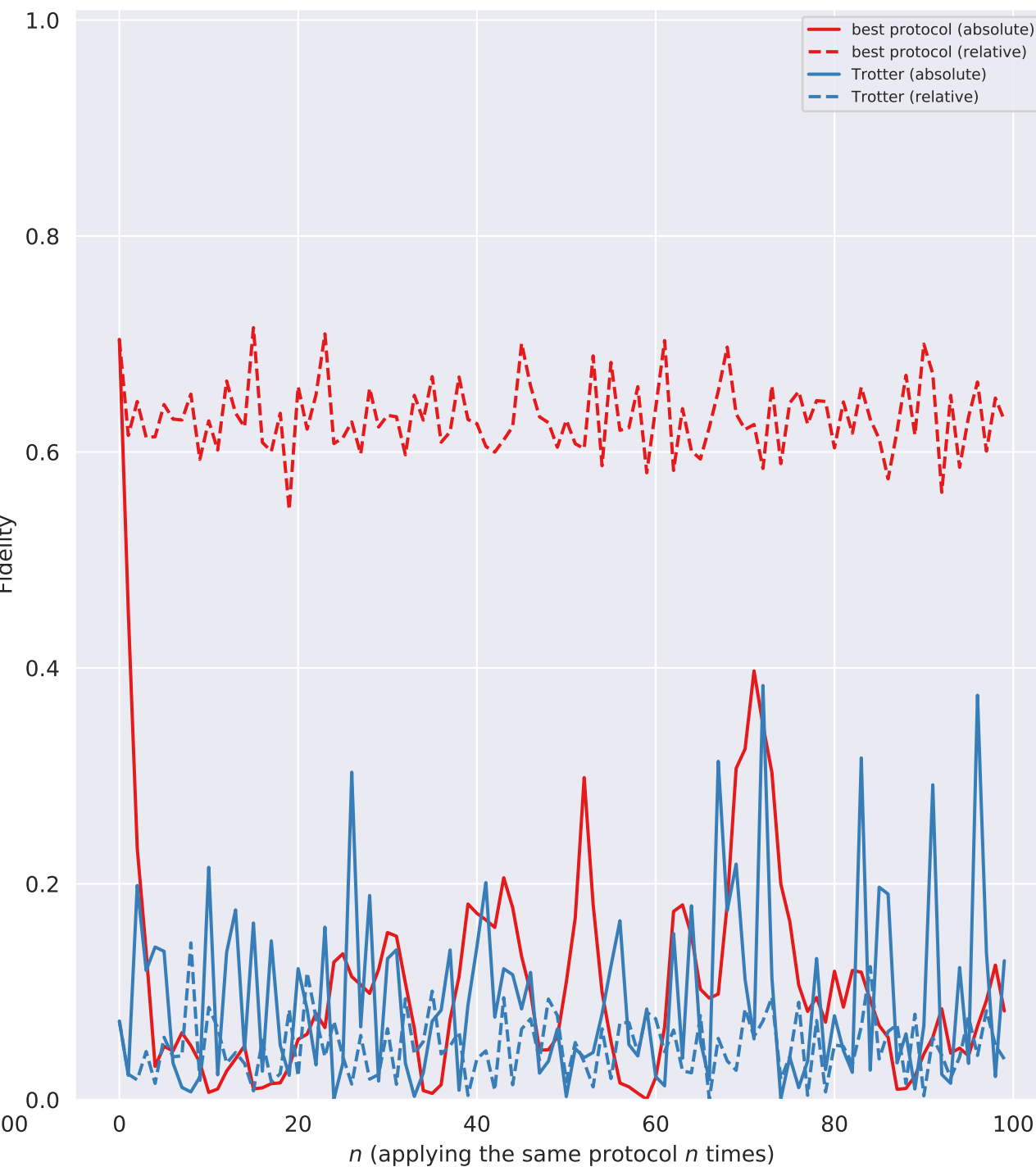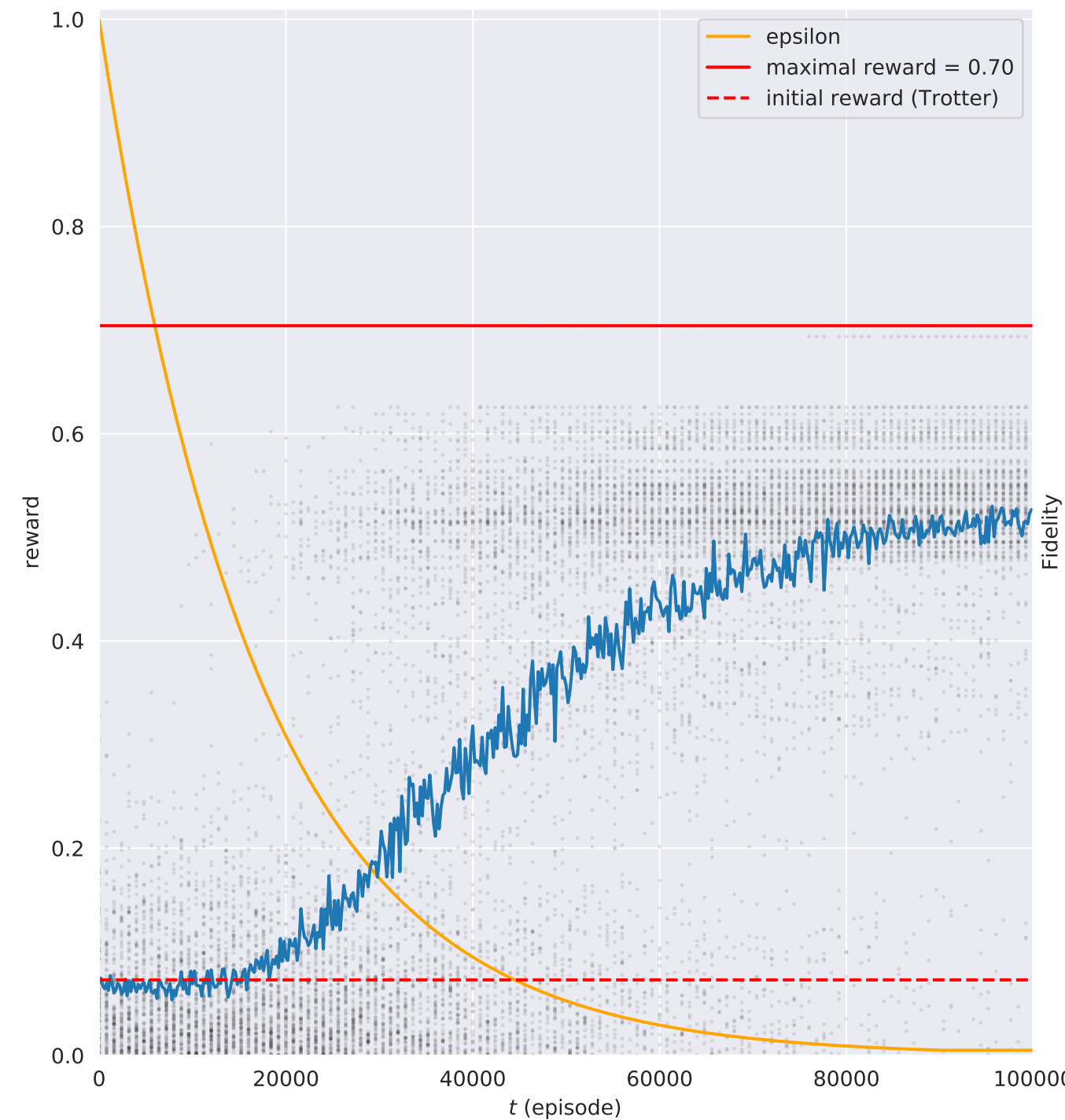 'time_segment': 100.0}

20_q_learning, n_tasks=100/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
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 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 6,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
 'system_class': 'LongRangeIsing',
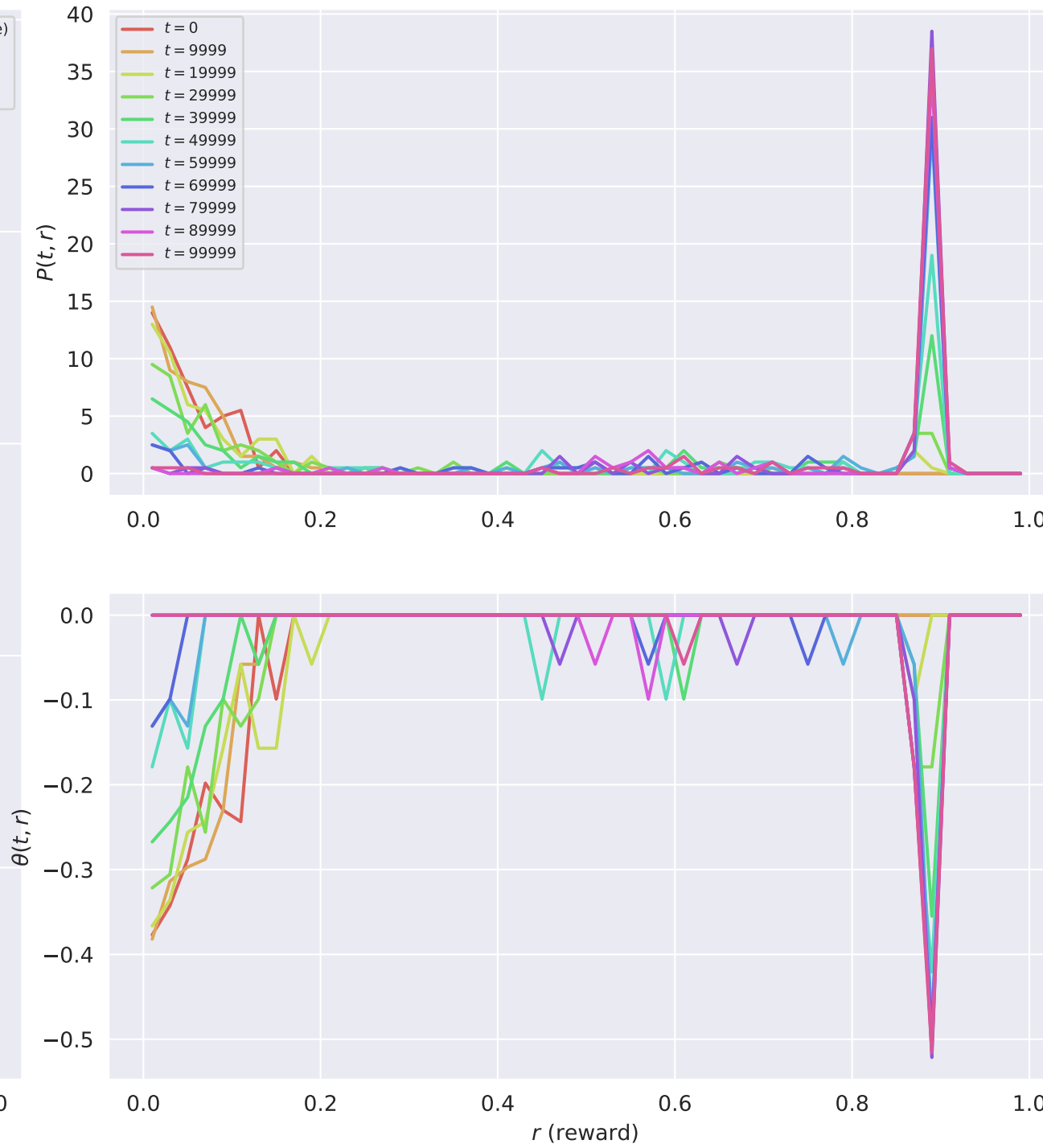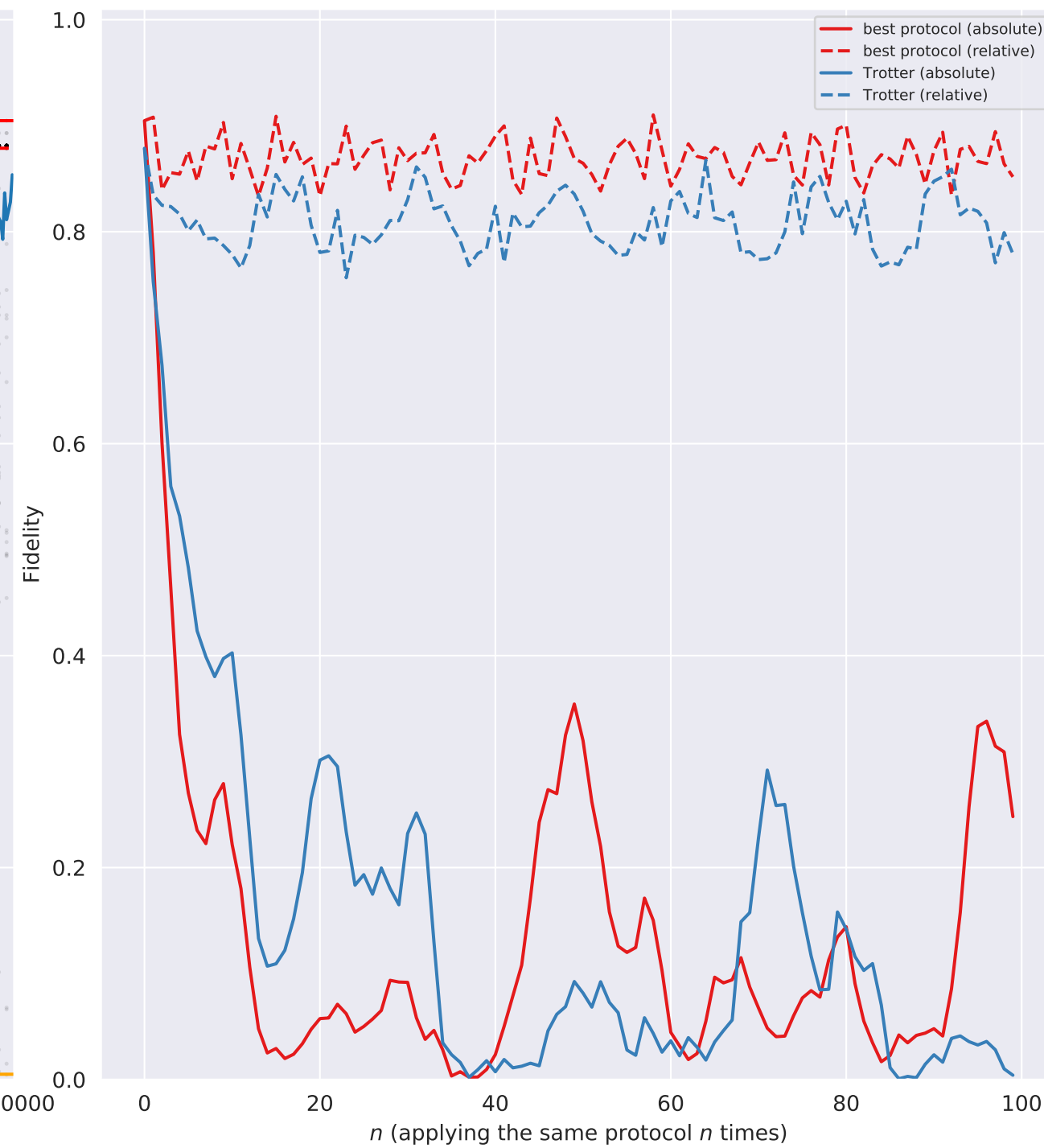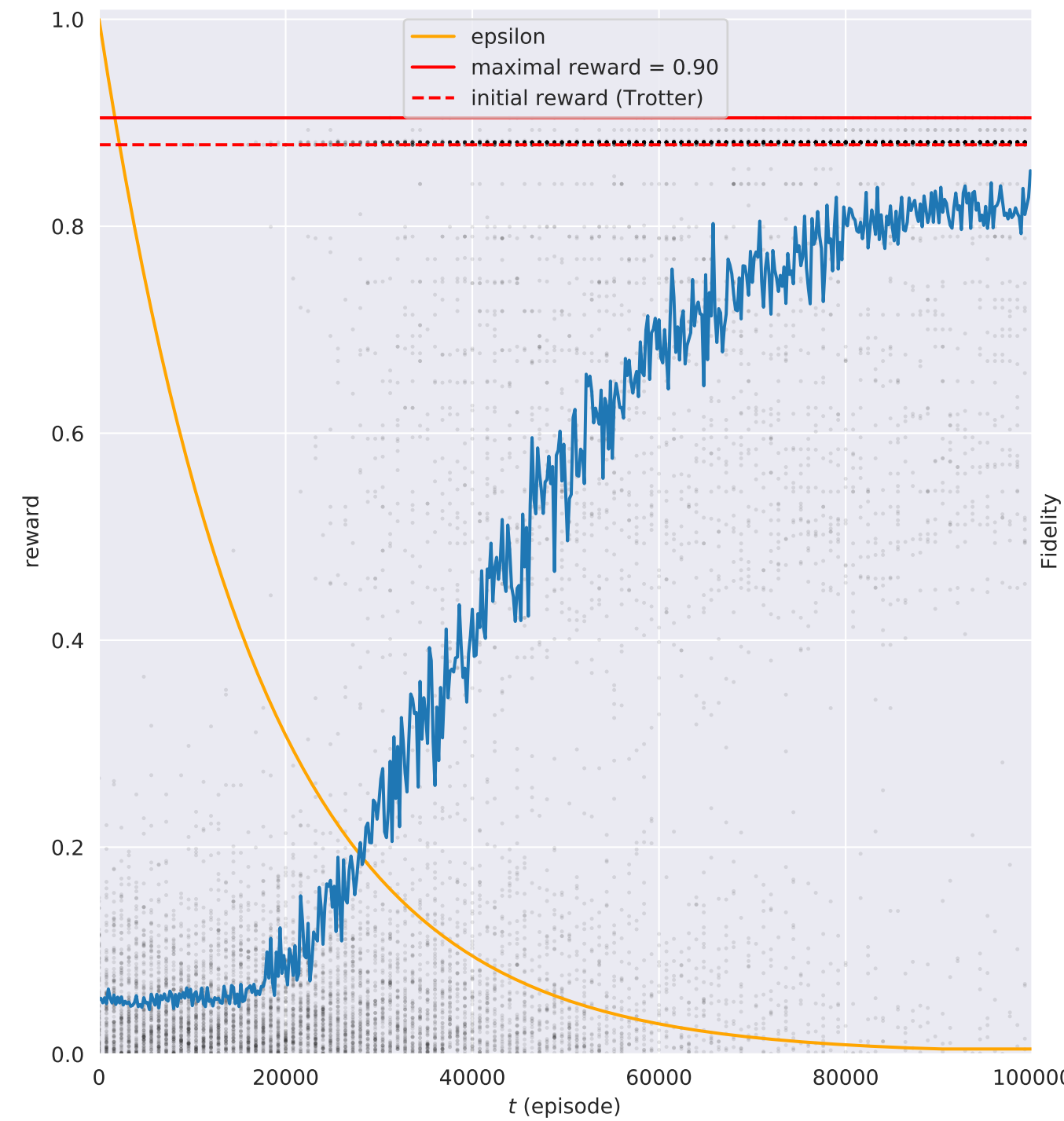 'time_segment': 1.0}

29_q_learning, n_tasks=100/100
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{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
 'n_episodes': 100000,
 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 6,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
 'system_class': 'LongRangeIsing',
 'time_segment': 100.0}
```

21_q_learning, n_tasks=100/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
 'n_episodes': 100000,
 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 7,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
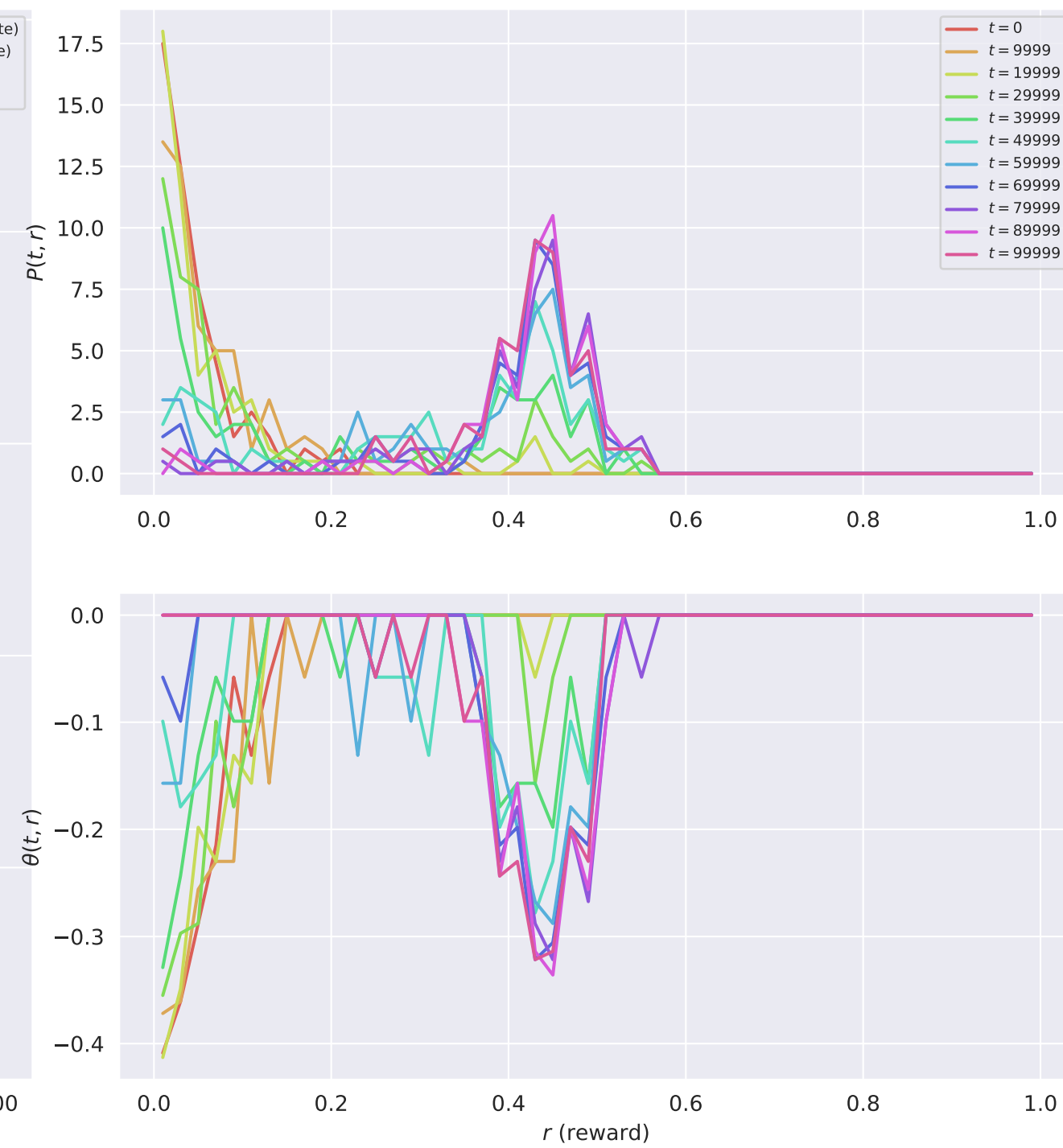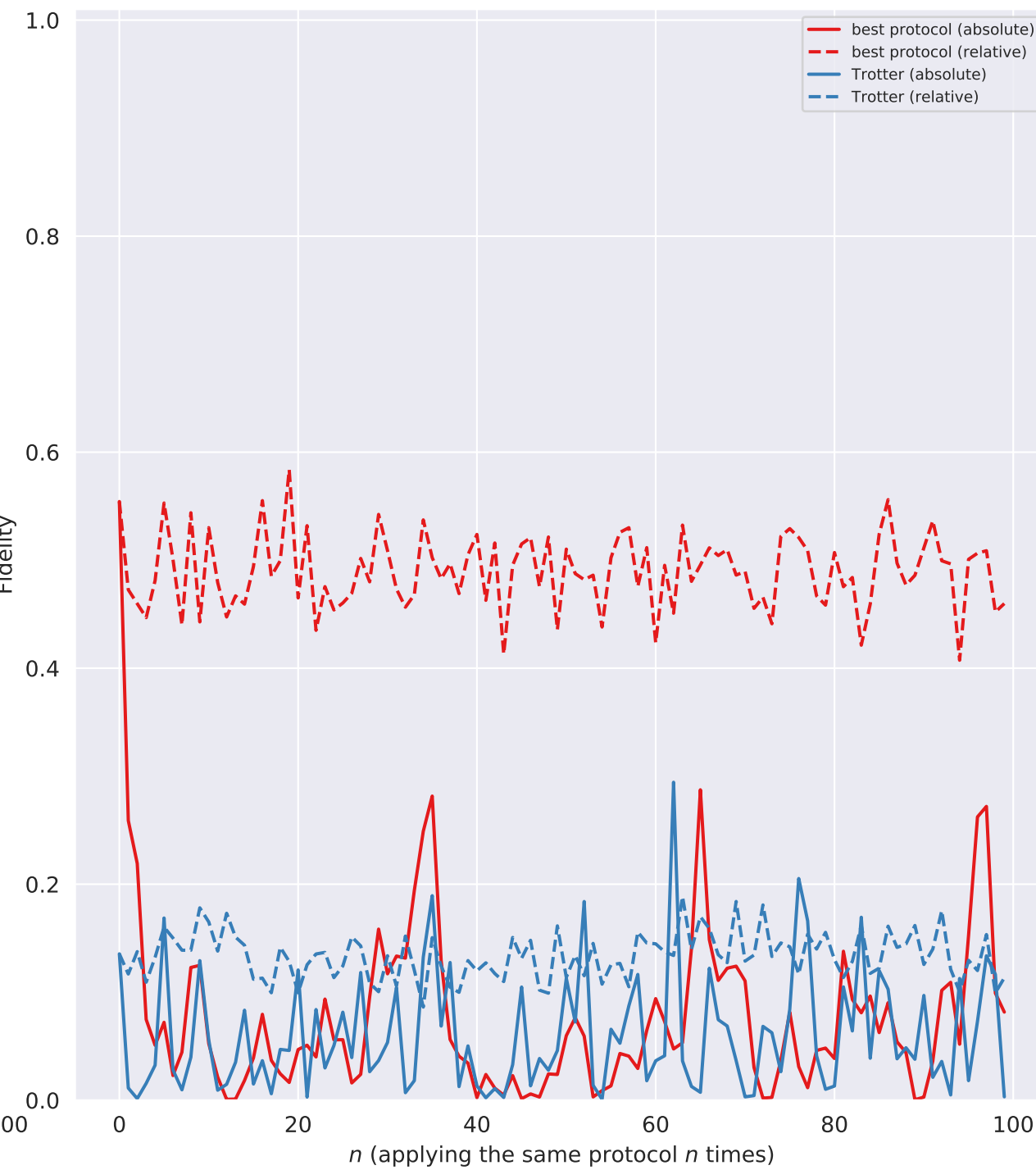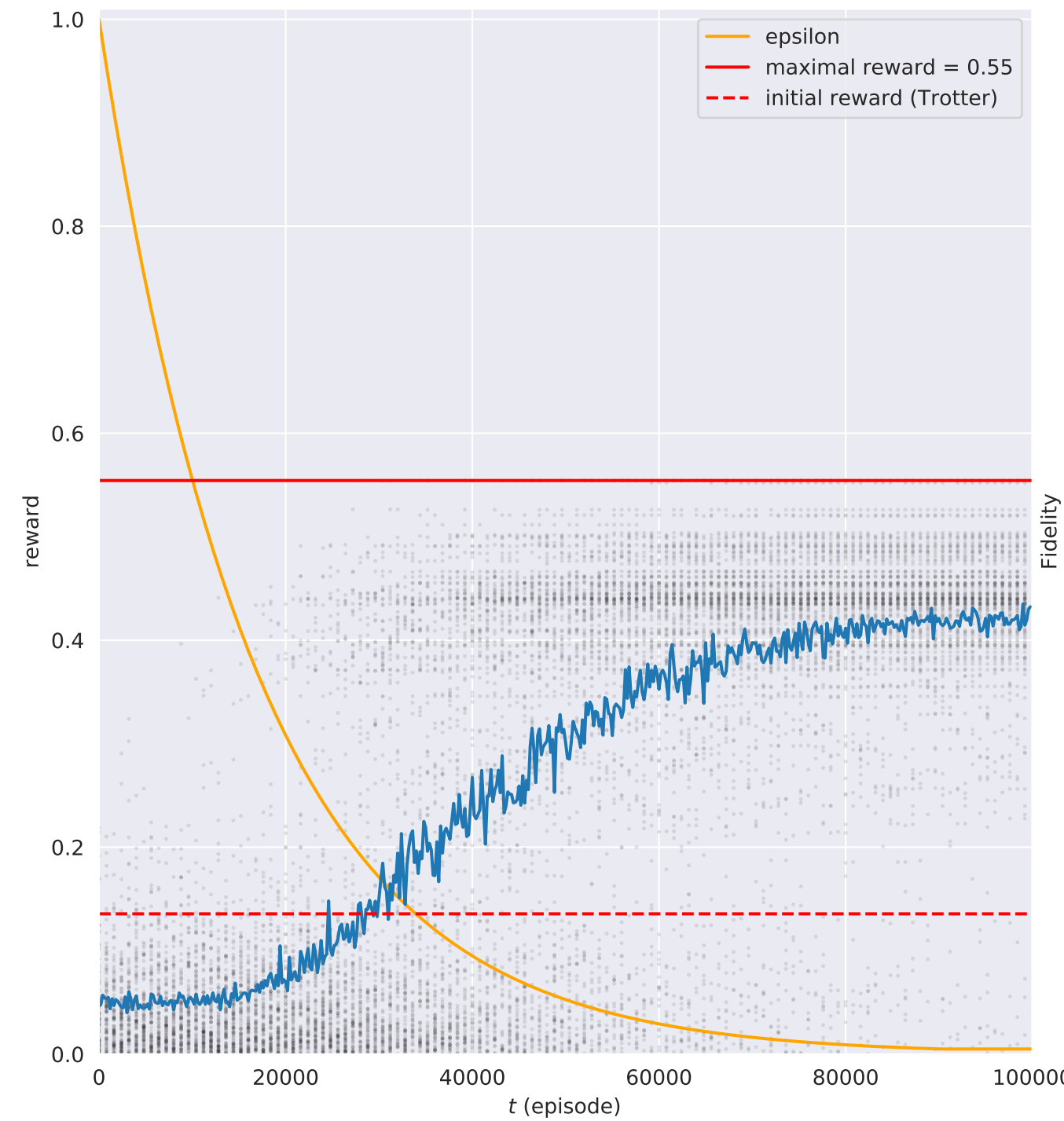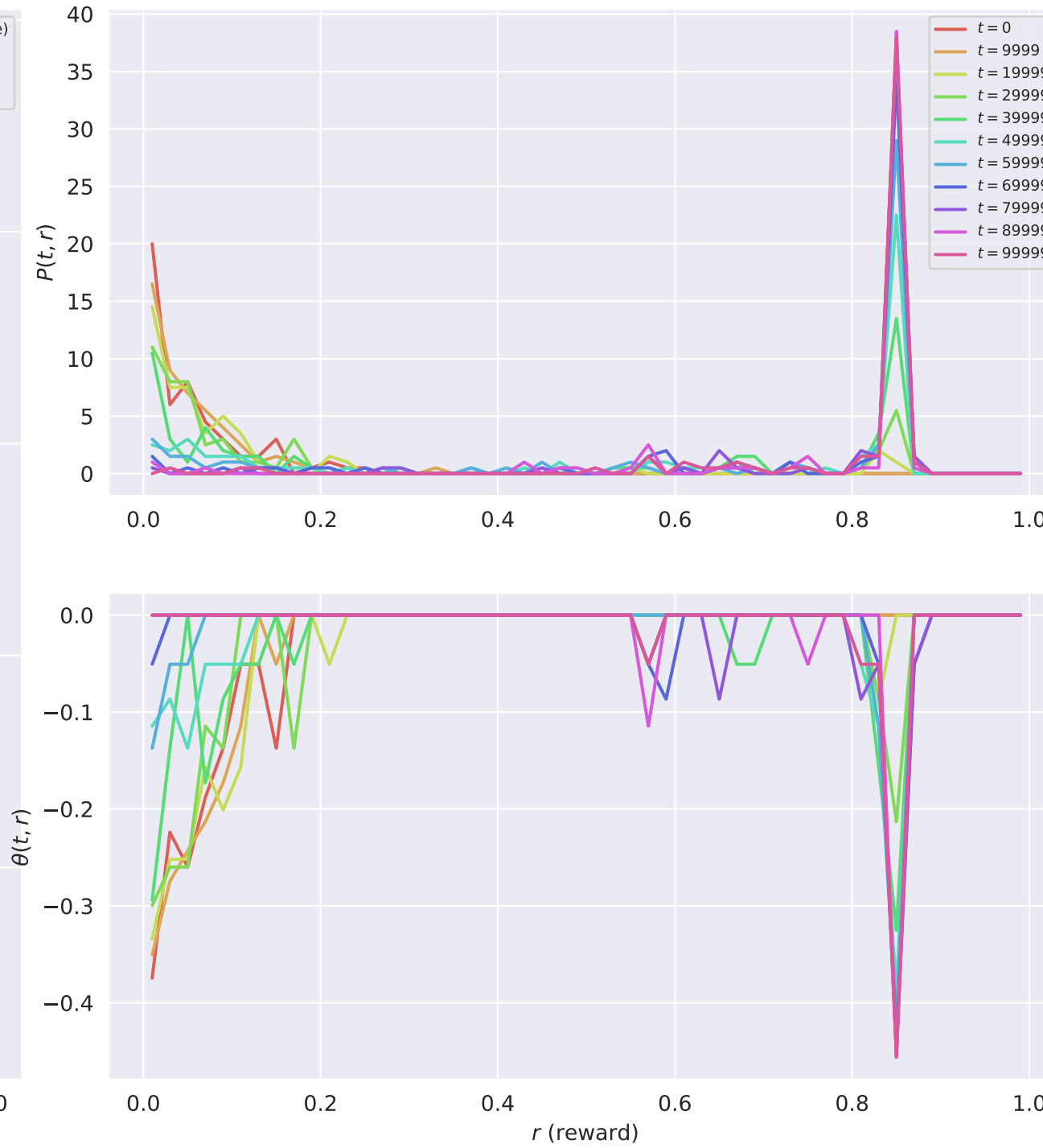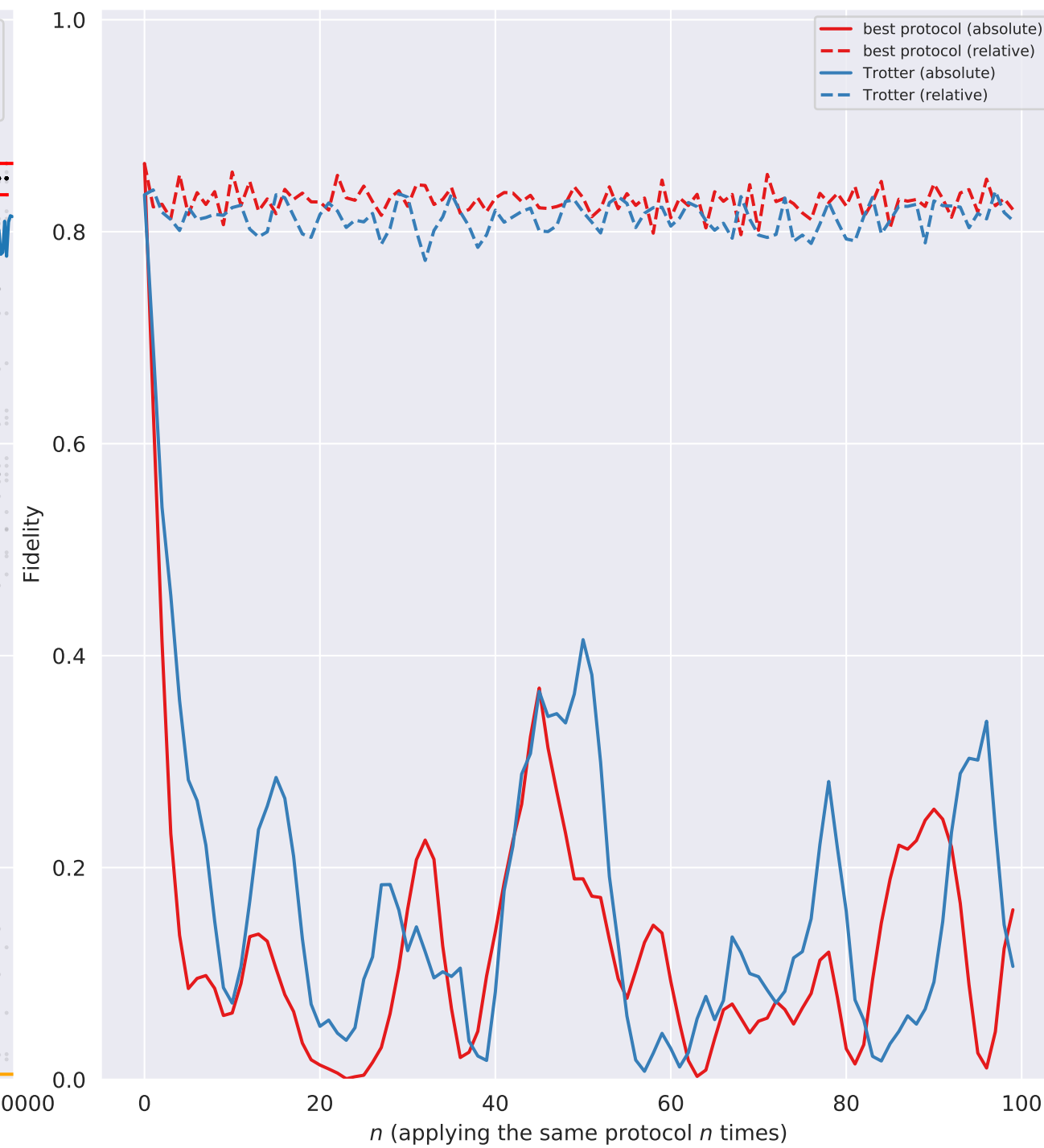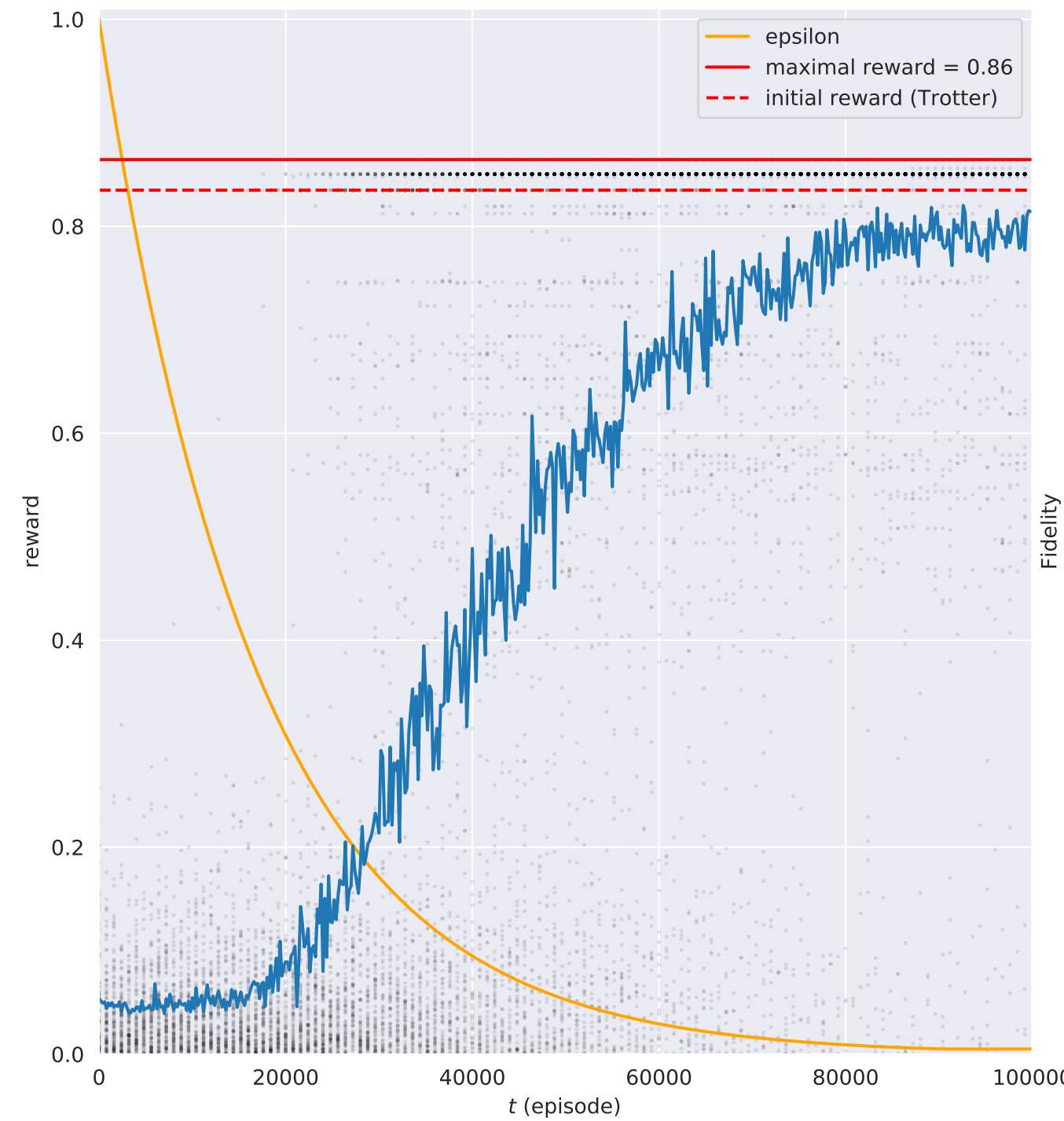 'system_class': 'LongRangeIsing',
 'time_segment': 1.0}

30_q_learning, n_tasks=100/100
{'bc': 'open',
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 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
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 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 7,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
 'system_class': 'LongRangeIsing',
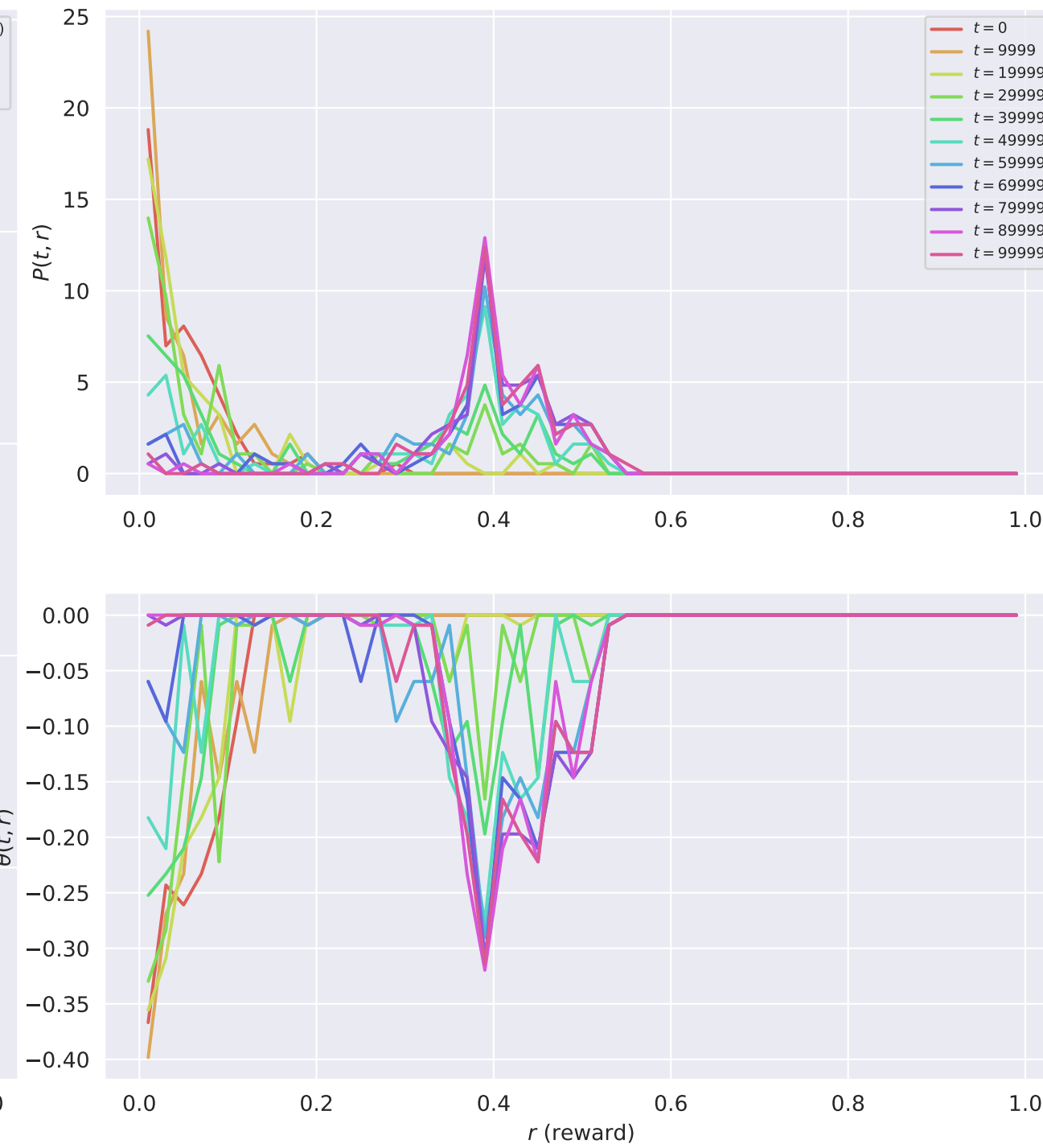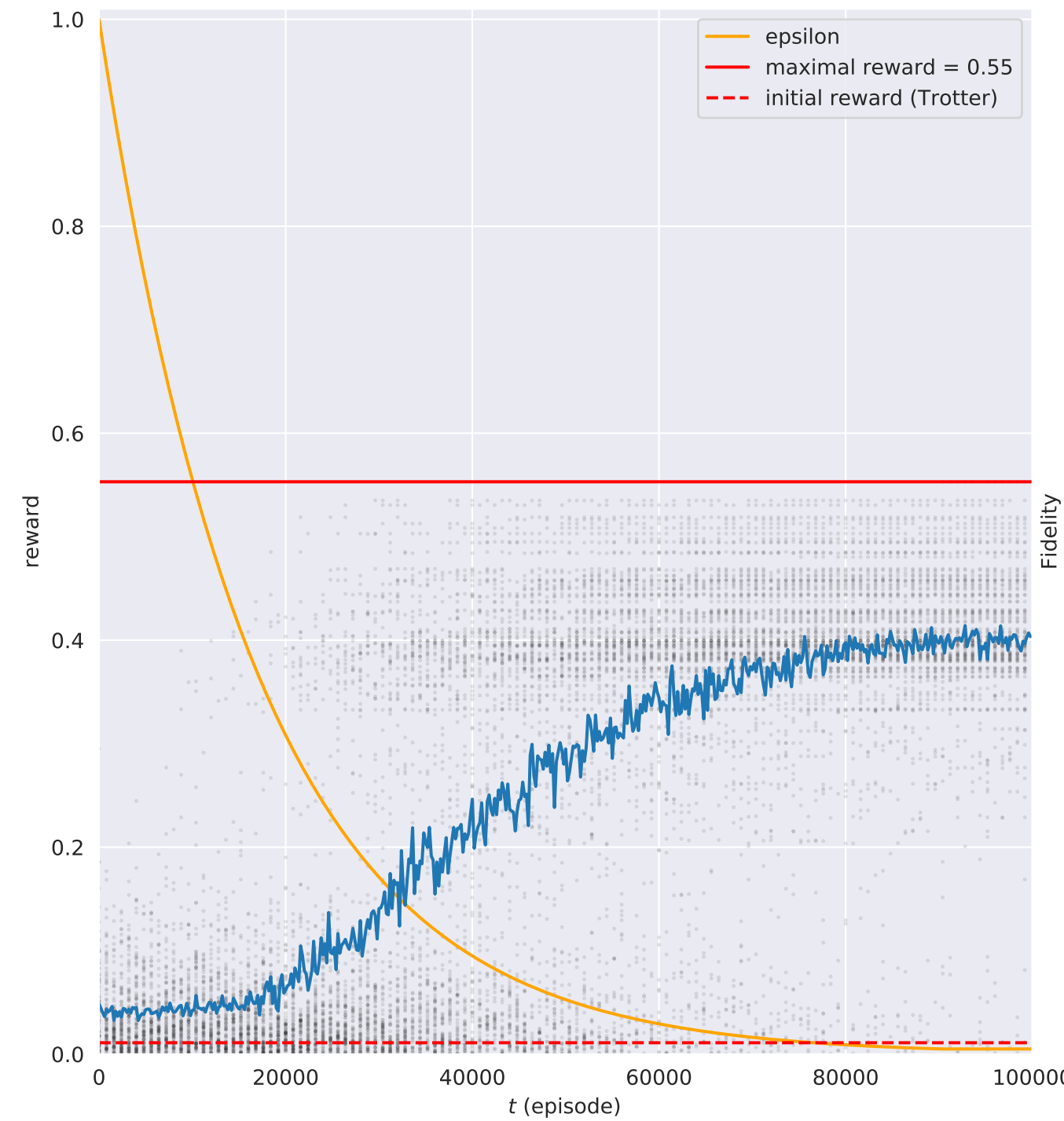 'time_segment': 100.0}

22_q_learning, n_tasks=100/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
 'n_episodes': 100000,
 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 8,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
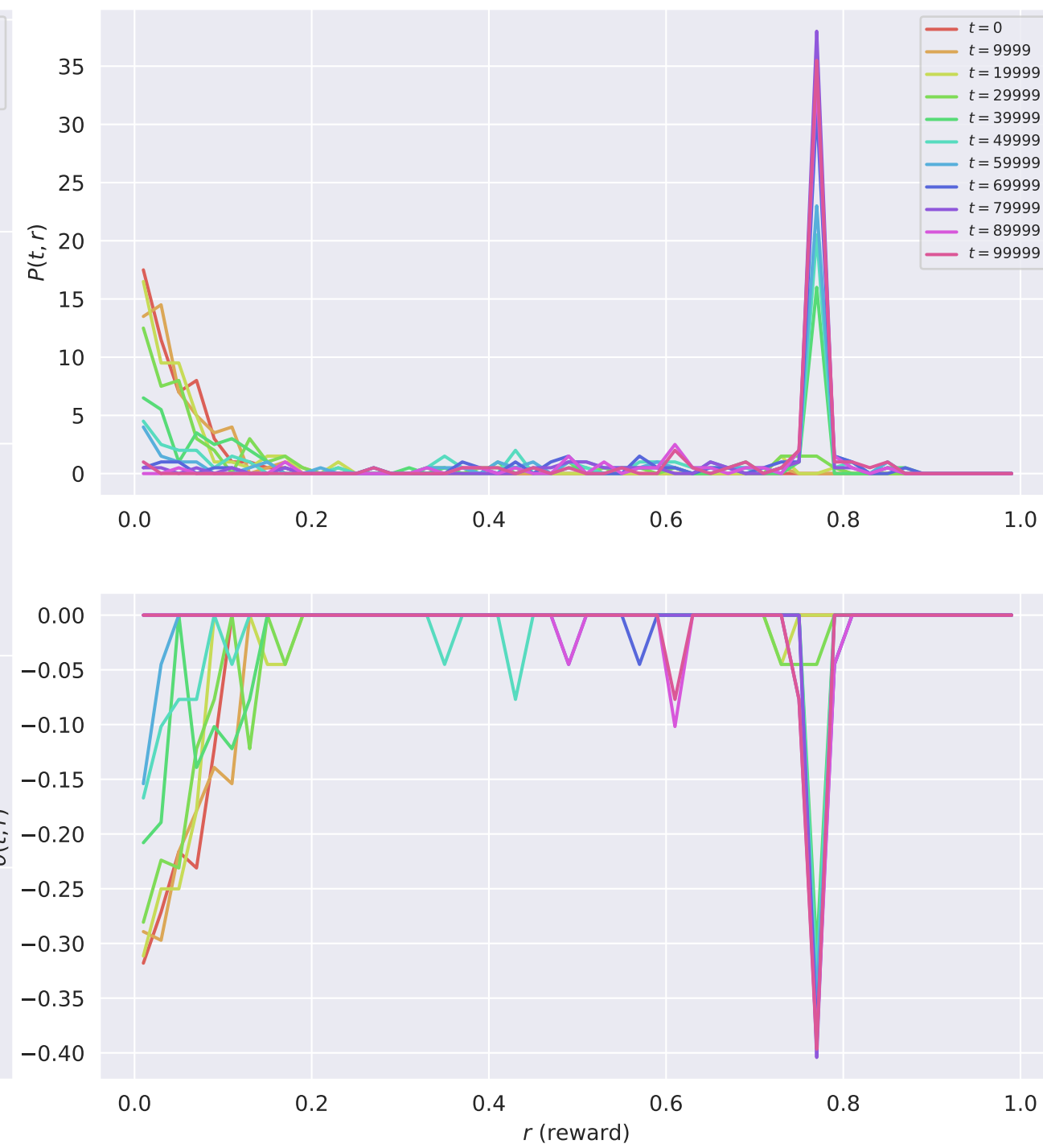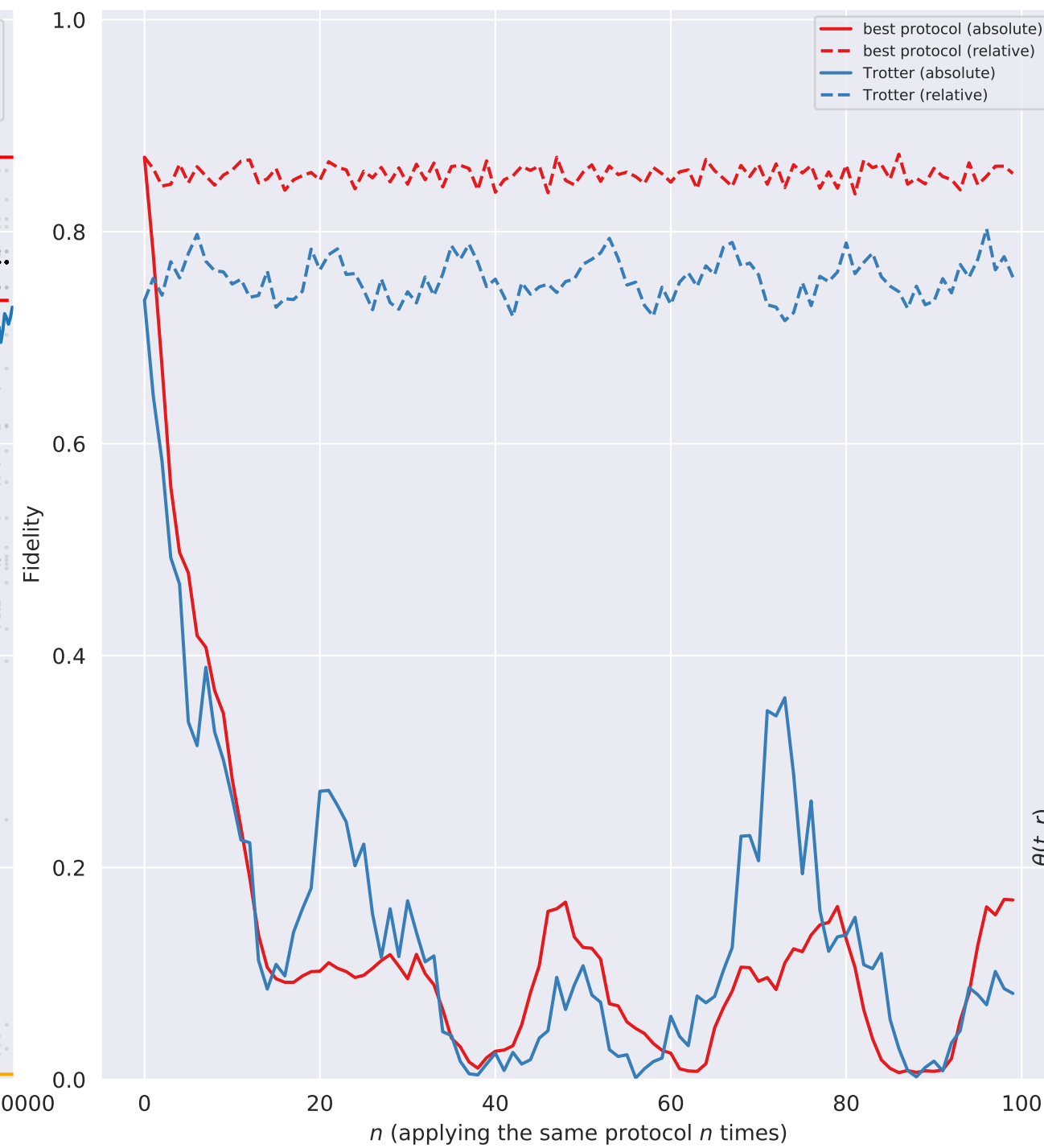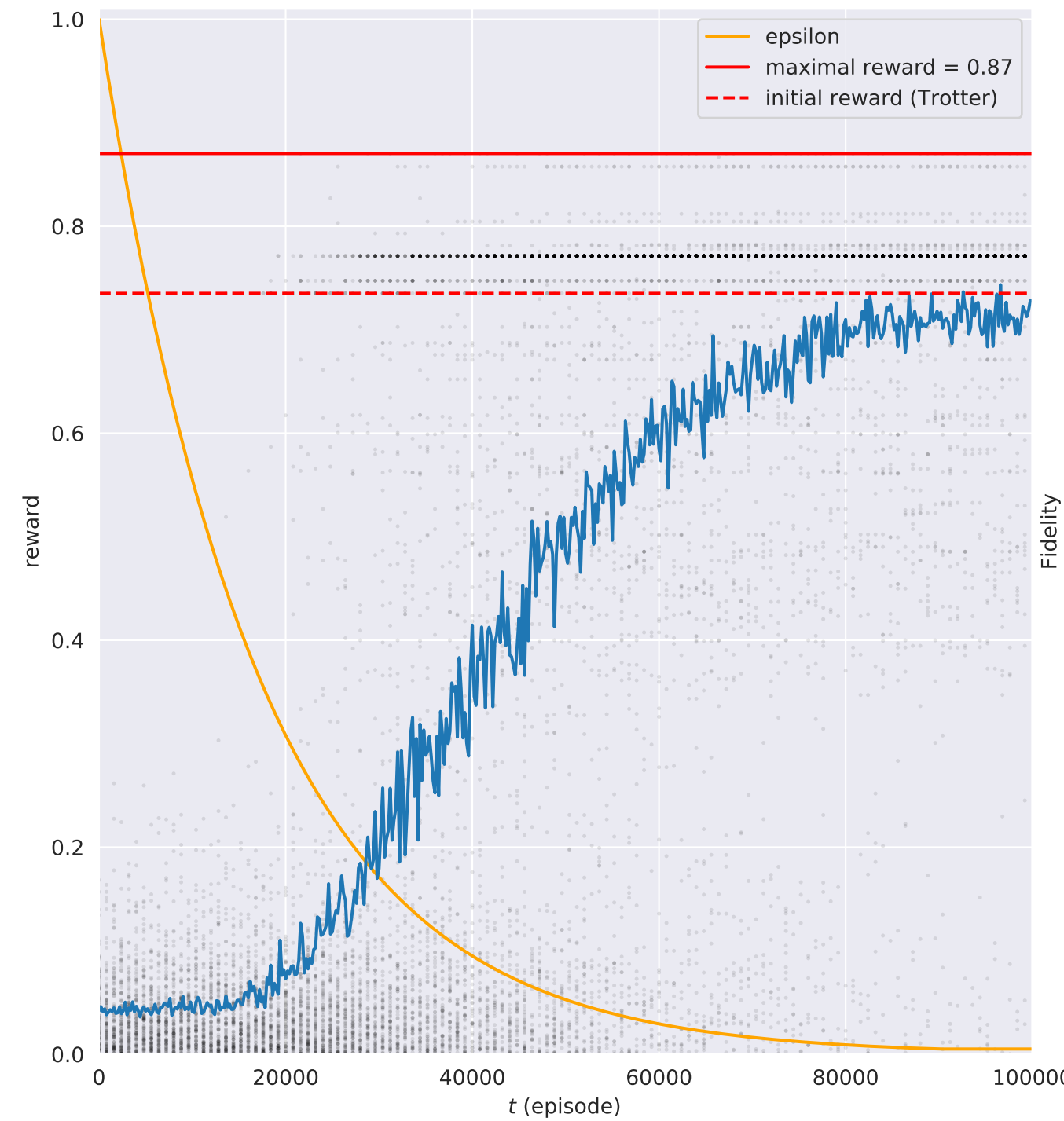 'system_class': 'LongRangeIsing',
 'time_segment': 1.0}

31_q_learning, n_tasks=93/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
 'n_episodes': 100000,
 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 8,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
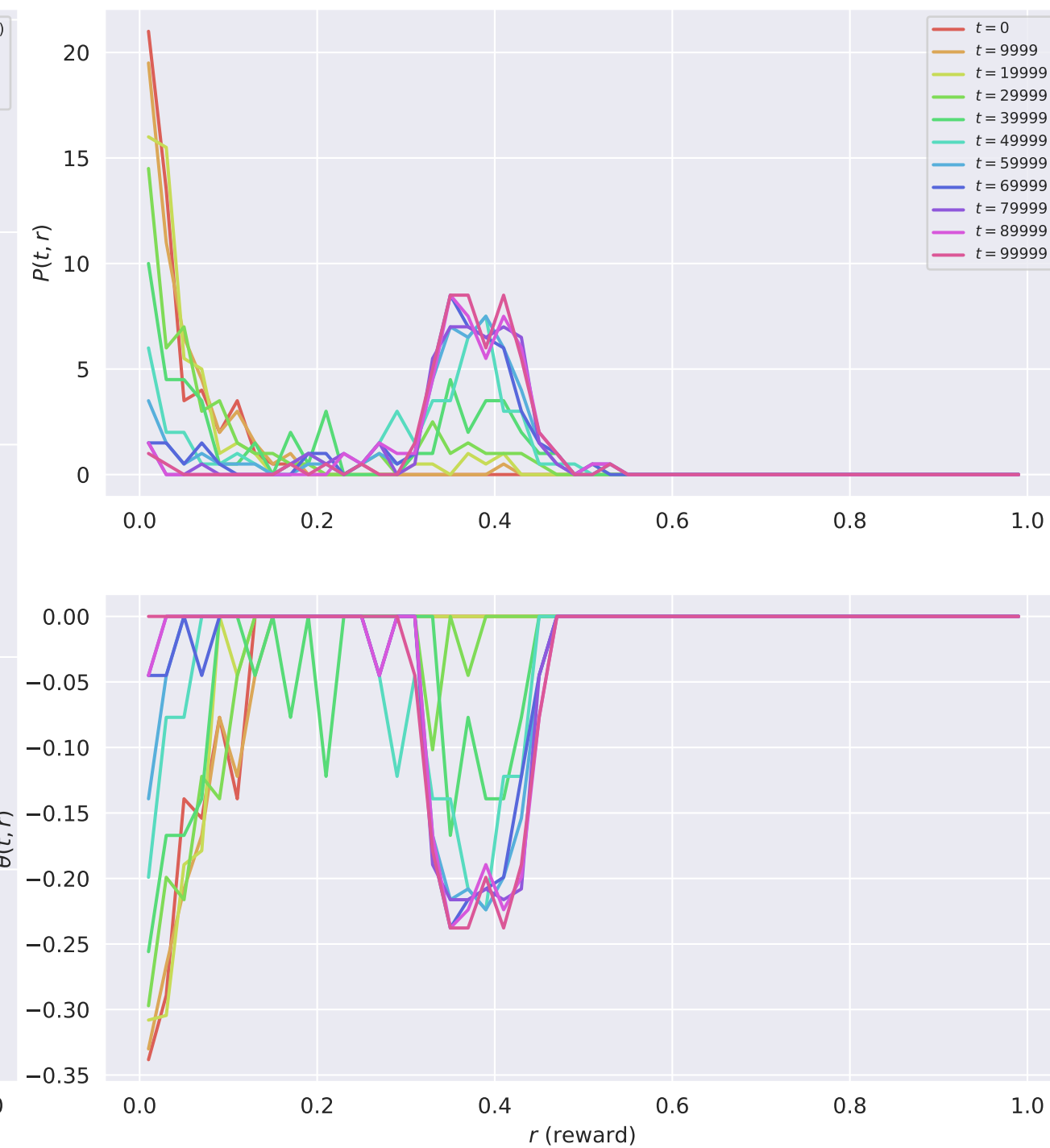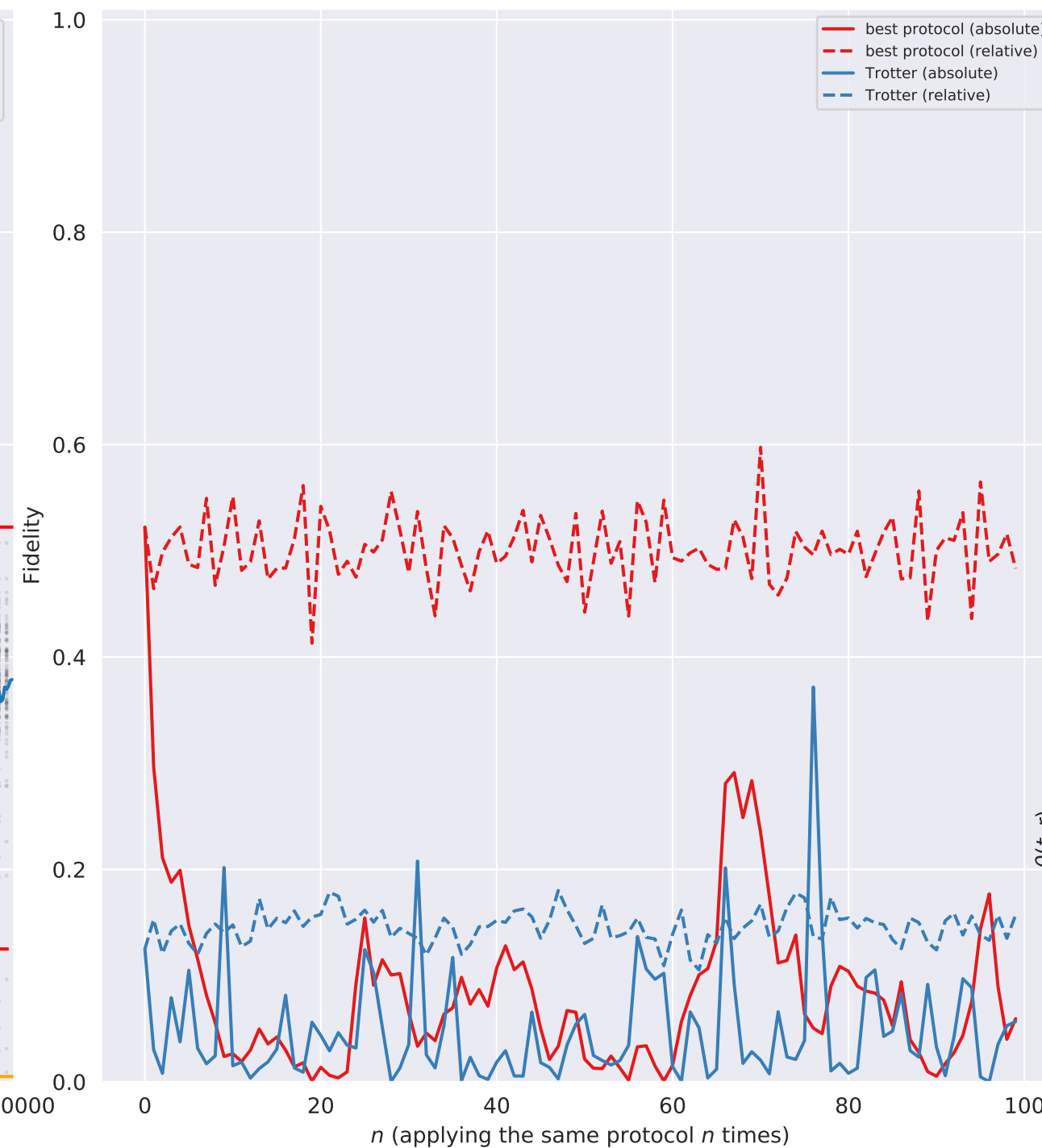 'system_class': 'LongRangeIsing',
 'time_segment': 100.0}

23_q_learning, n_tasks=100/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
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 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 9,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
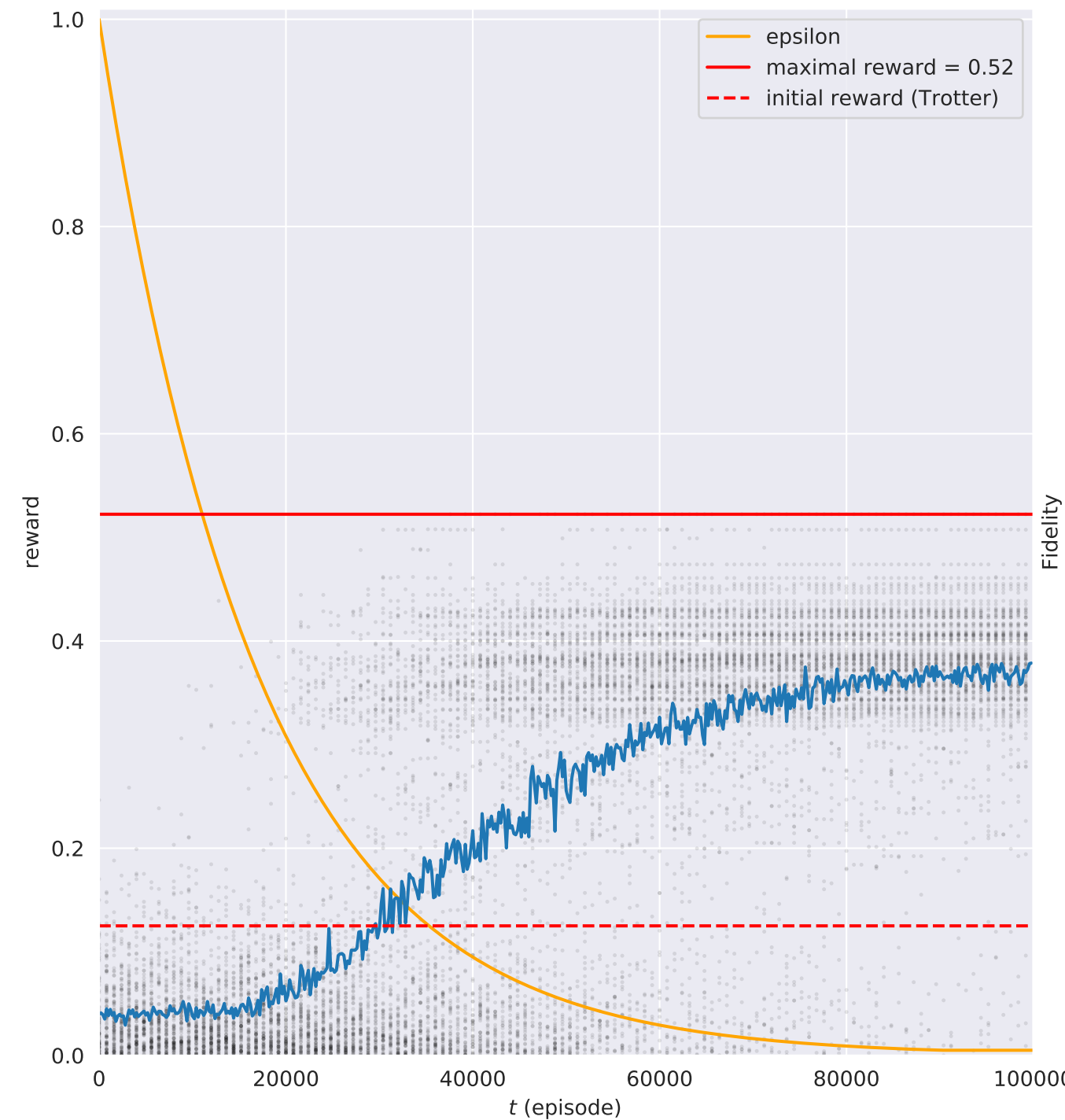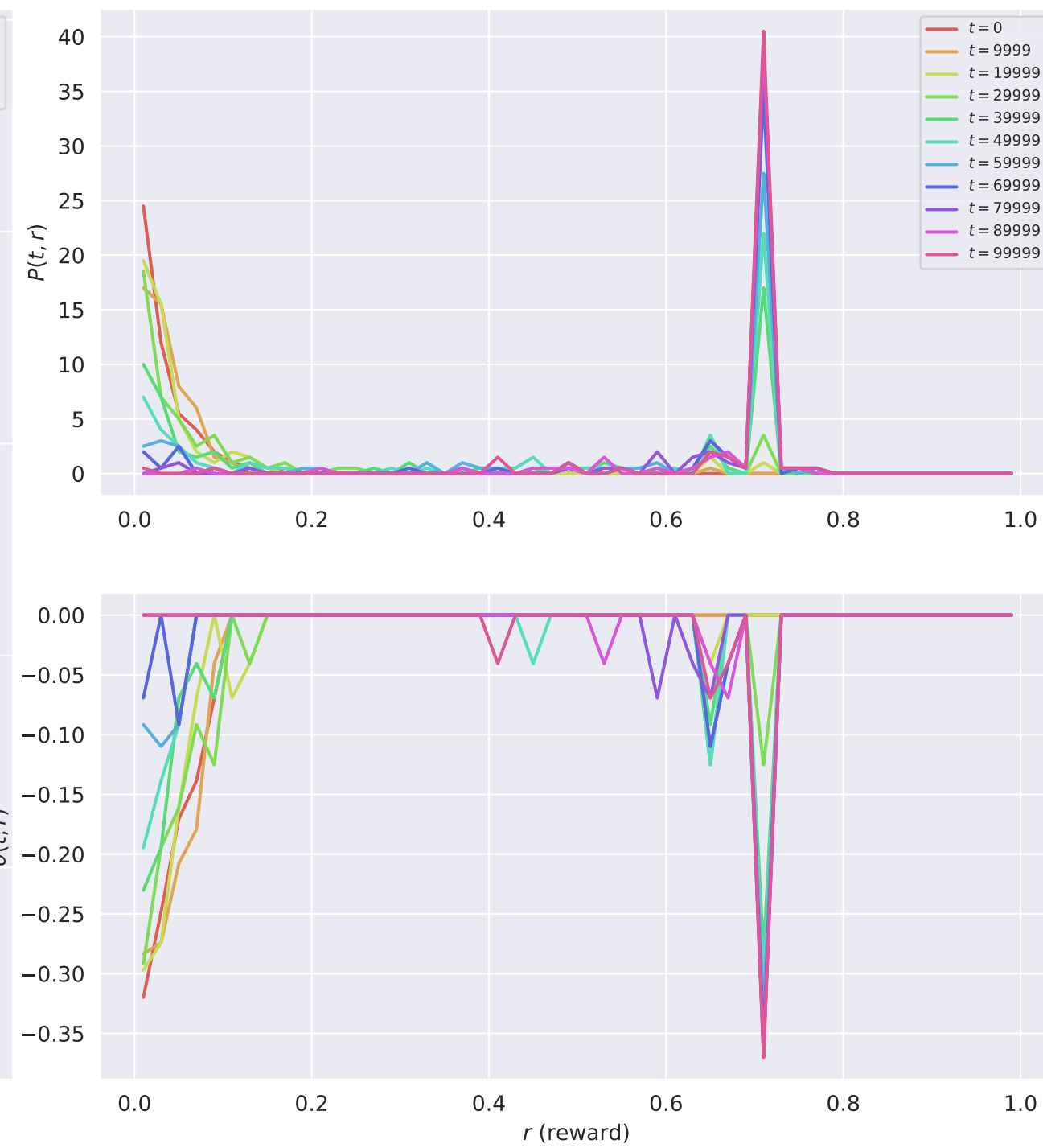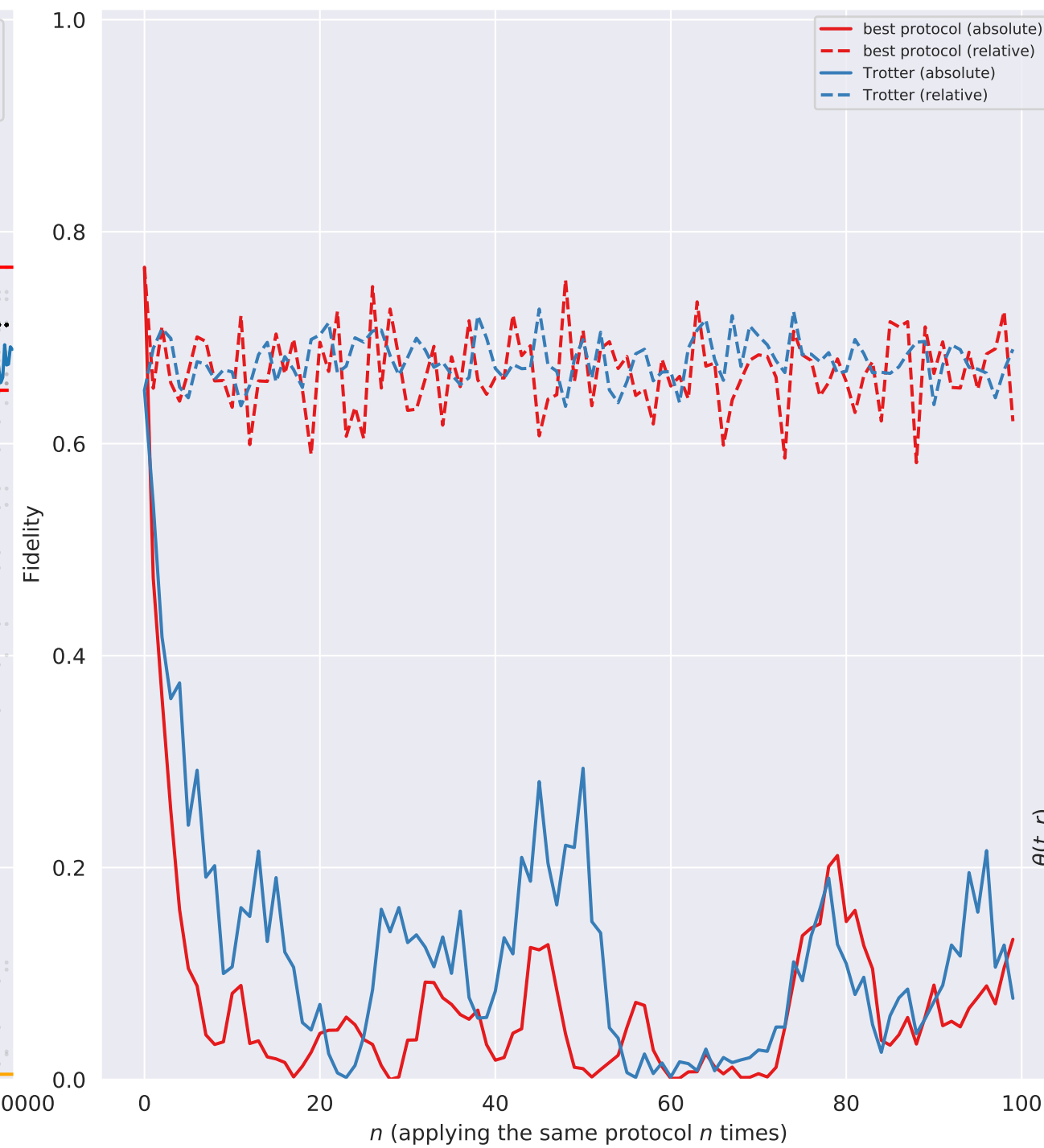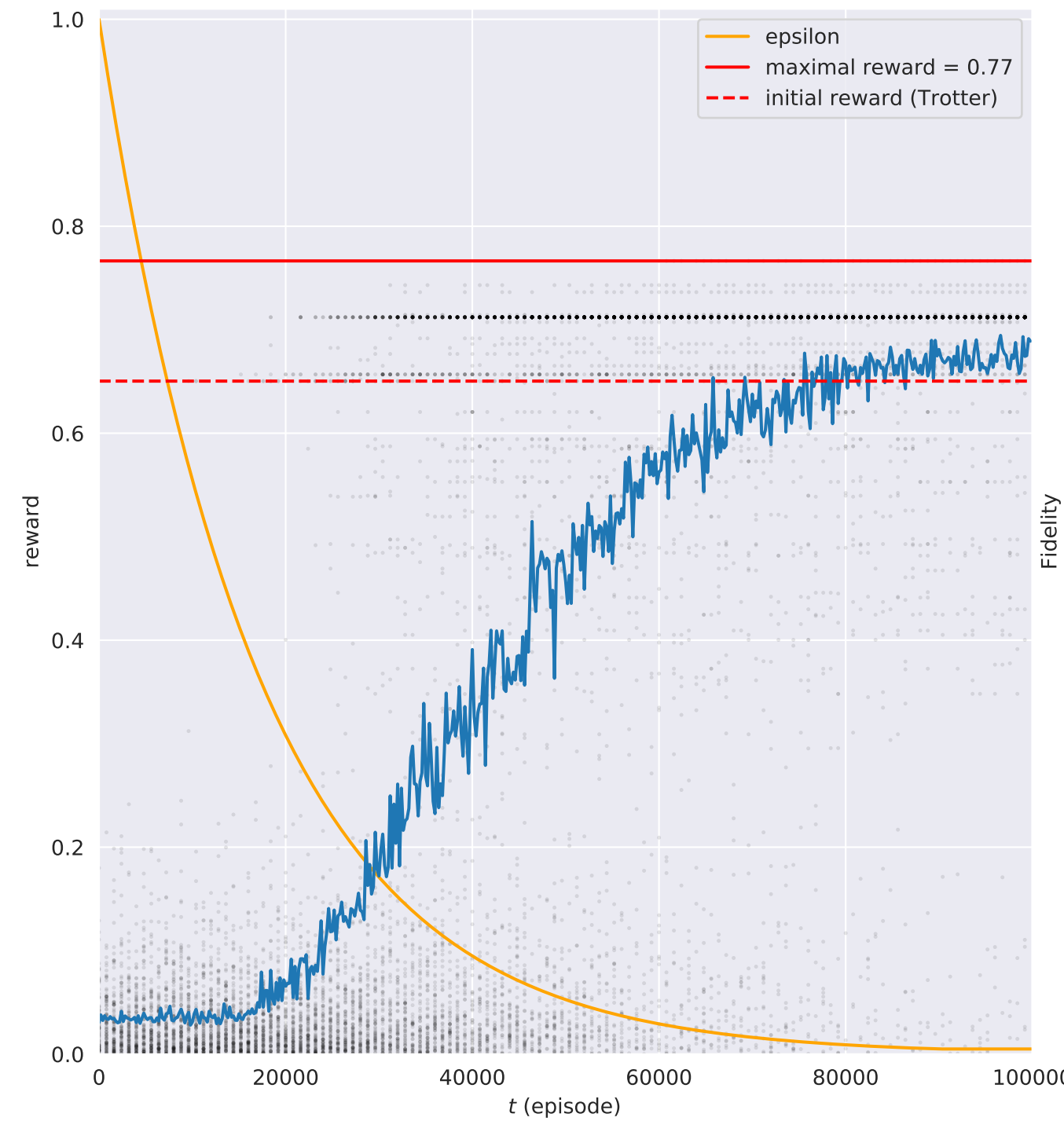 'system_class': 'LongRangeIsing',
 'time_segment': 1.0}

32_q_learning, n_tasks=100/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
 'n_episodes': 100000,
 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 9,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
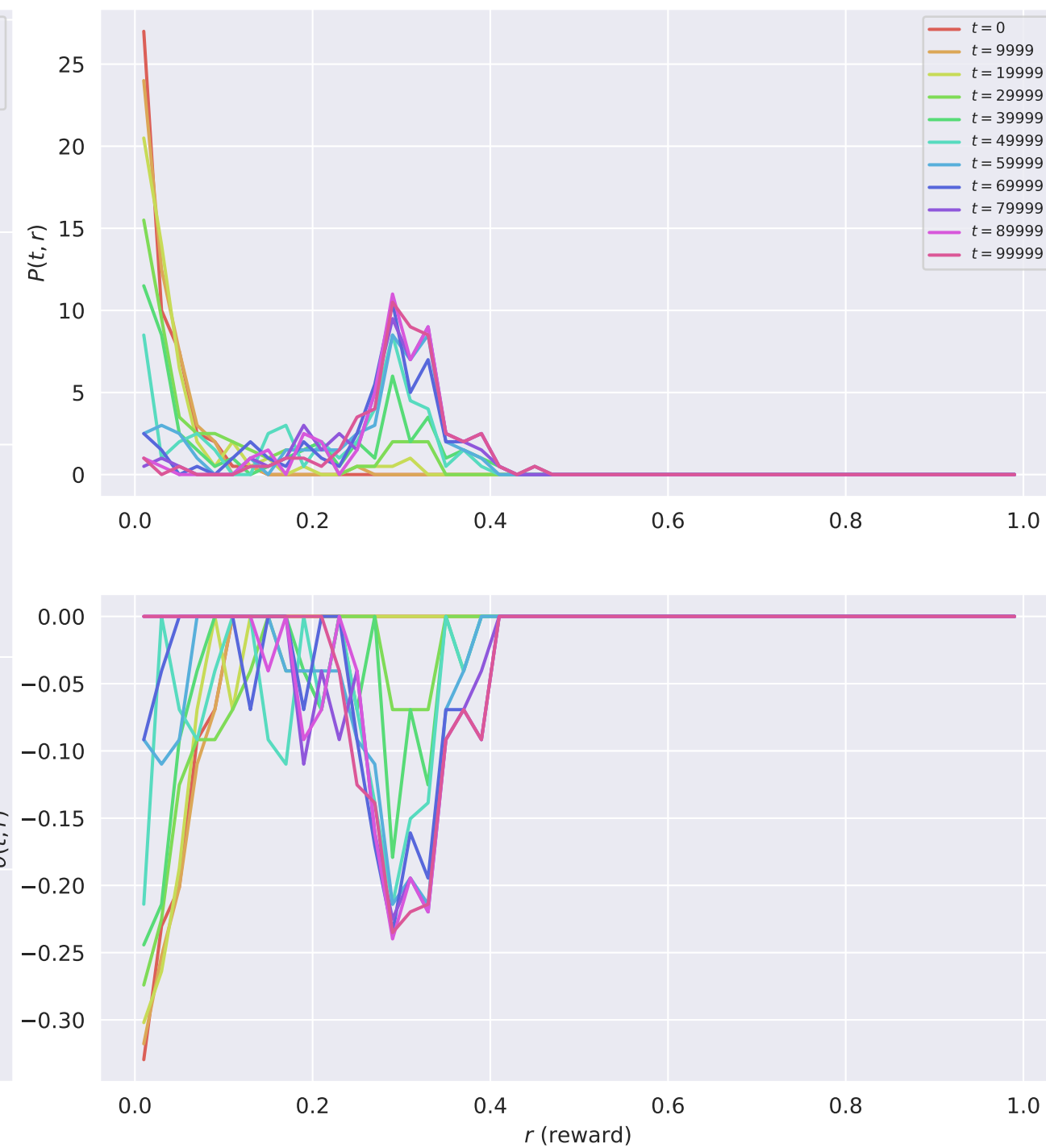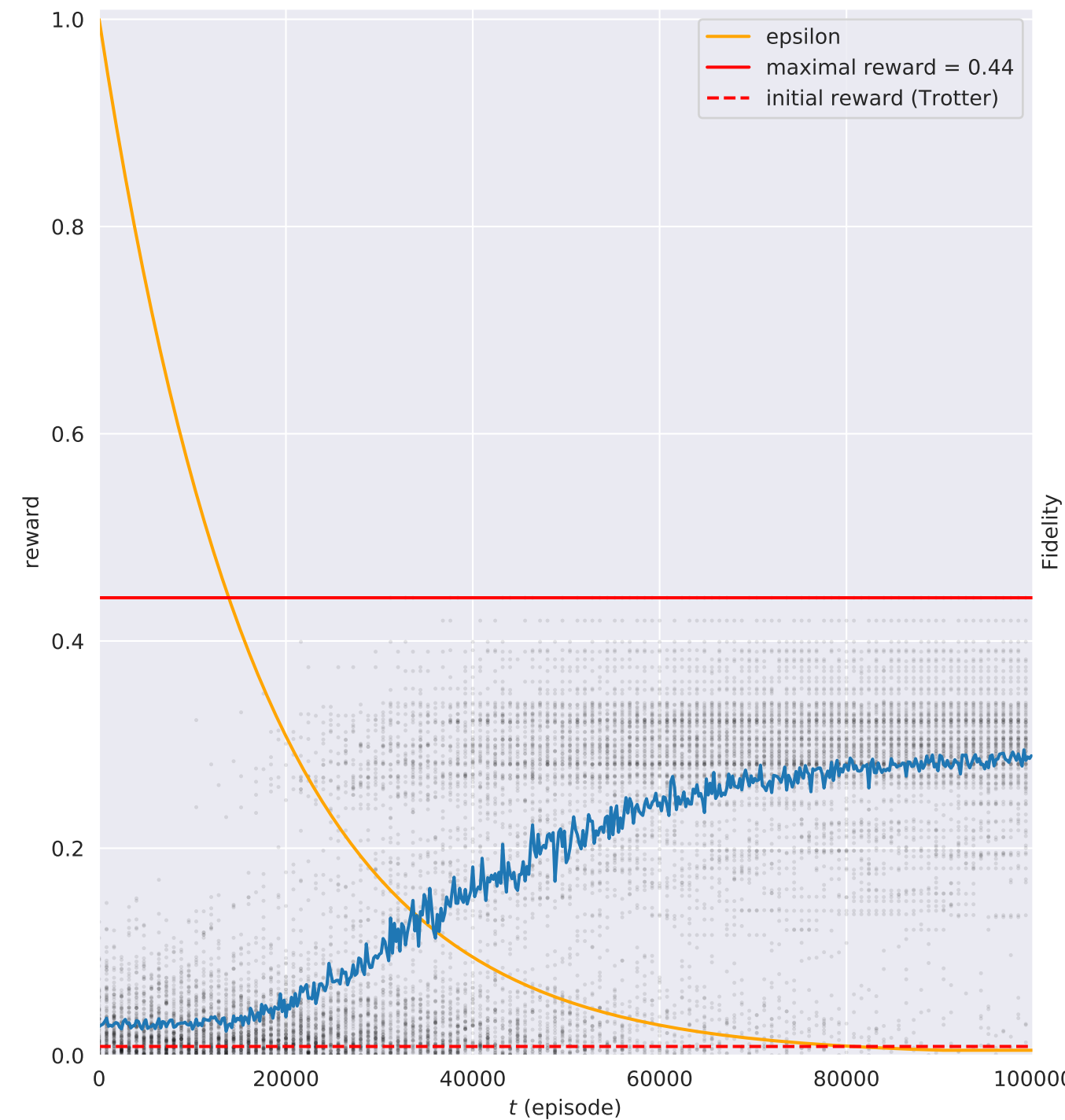 'system_class': 'LongRangeIsing',
 'time_segment': 100.0}

24_q_learning, n_tasks=100/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
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 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 10,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
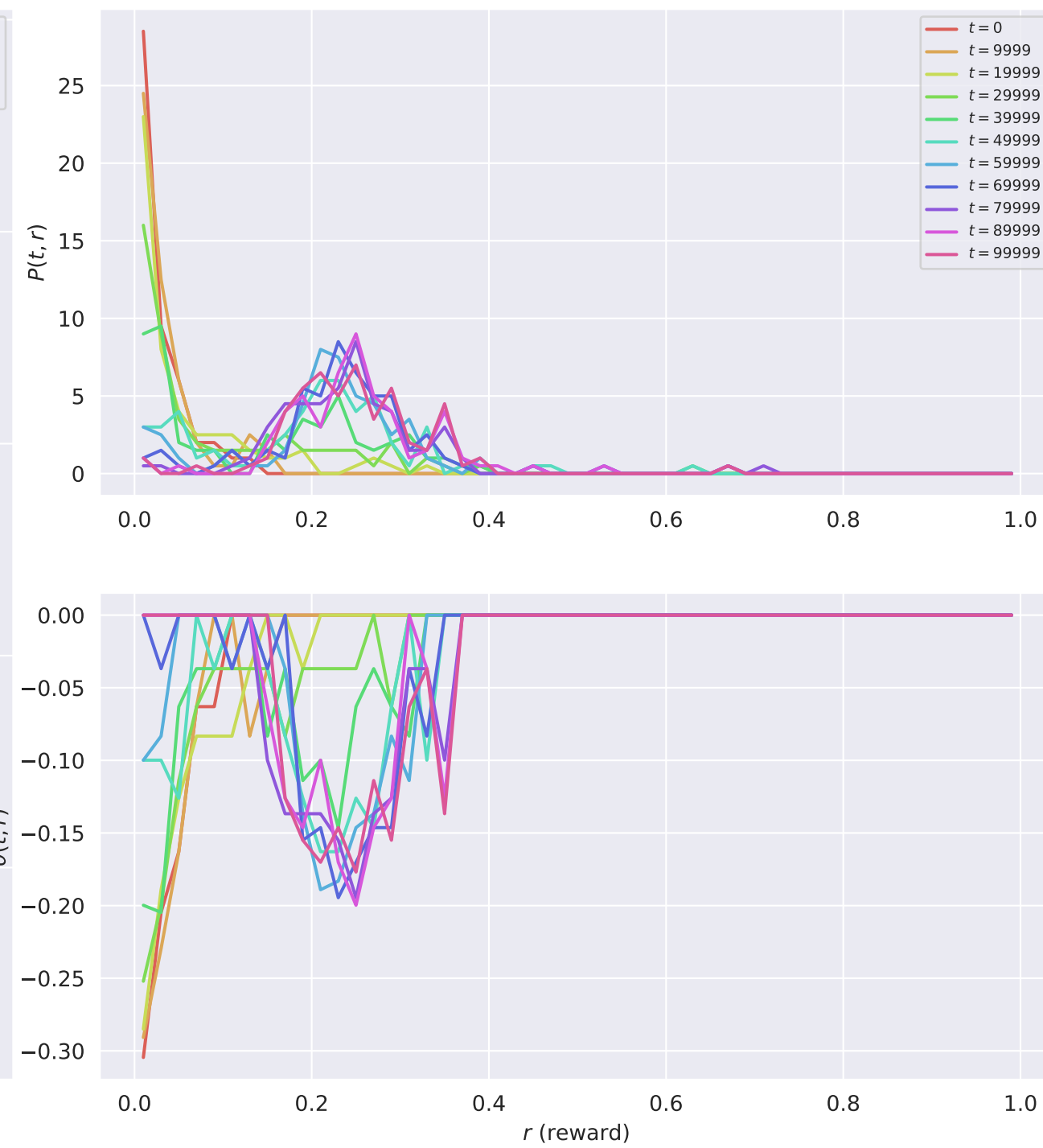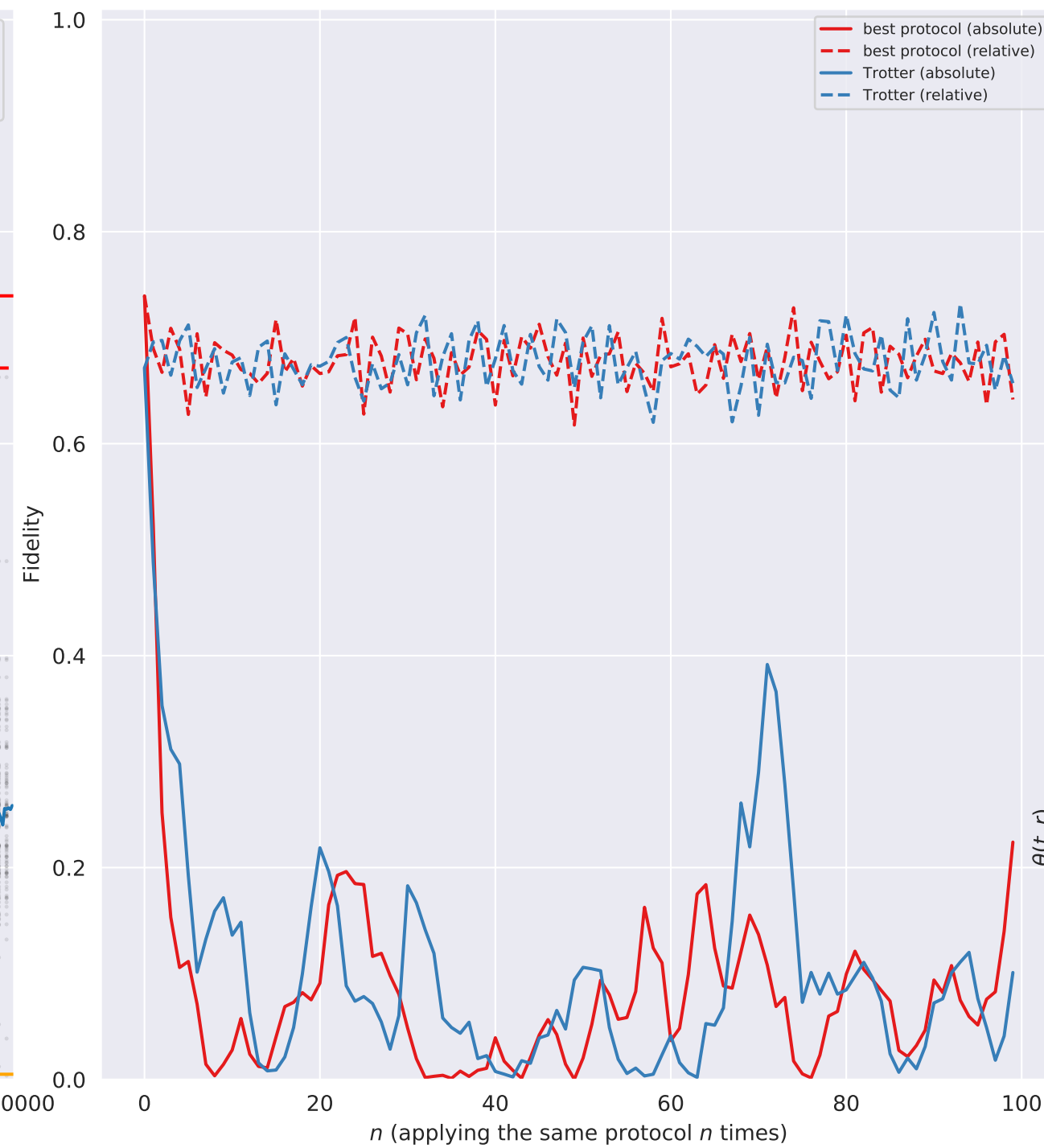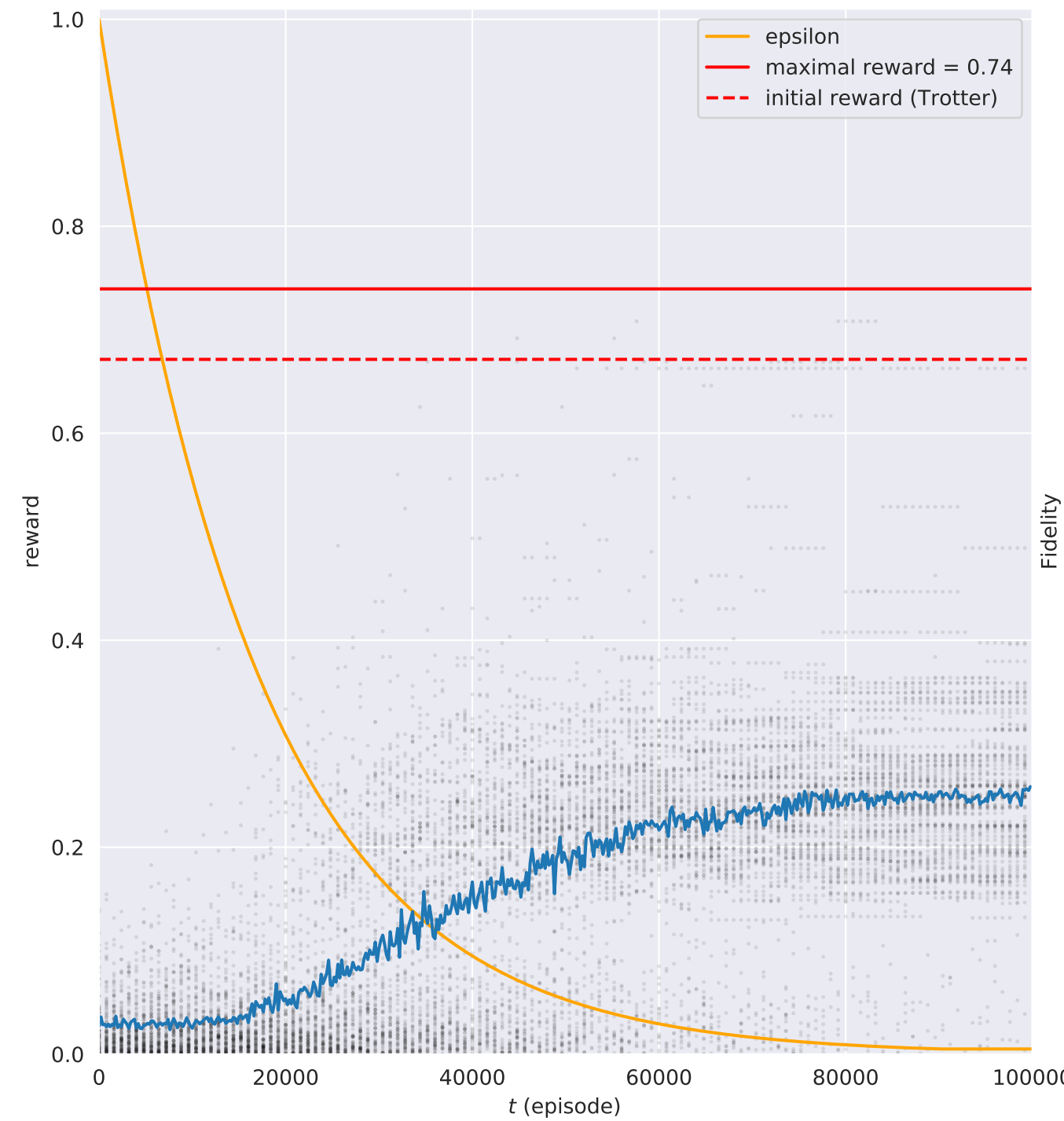 'system_class': 'LongRangeIsing',
 'time_segment': 1.0}

33_q_learning, n_tasks=100/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
 'n_directions': 2,
 'n_episodes': 100000,
 'n_oqbgate_parameters': 9,
 'n_replays': 100,
 'n_sites': 10,
 'n_steps': 6,
 'replay_spacing': 200,
 'seed_initial_state': 42,
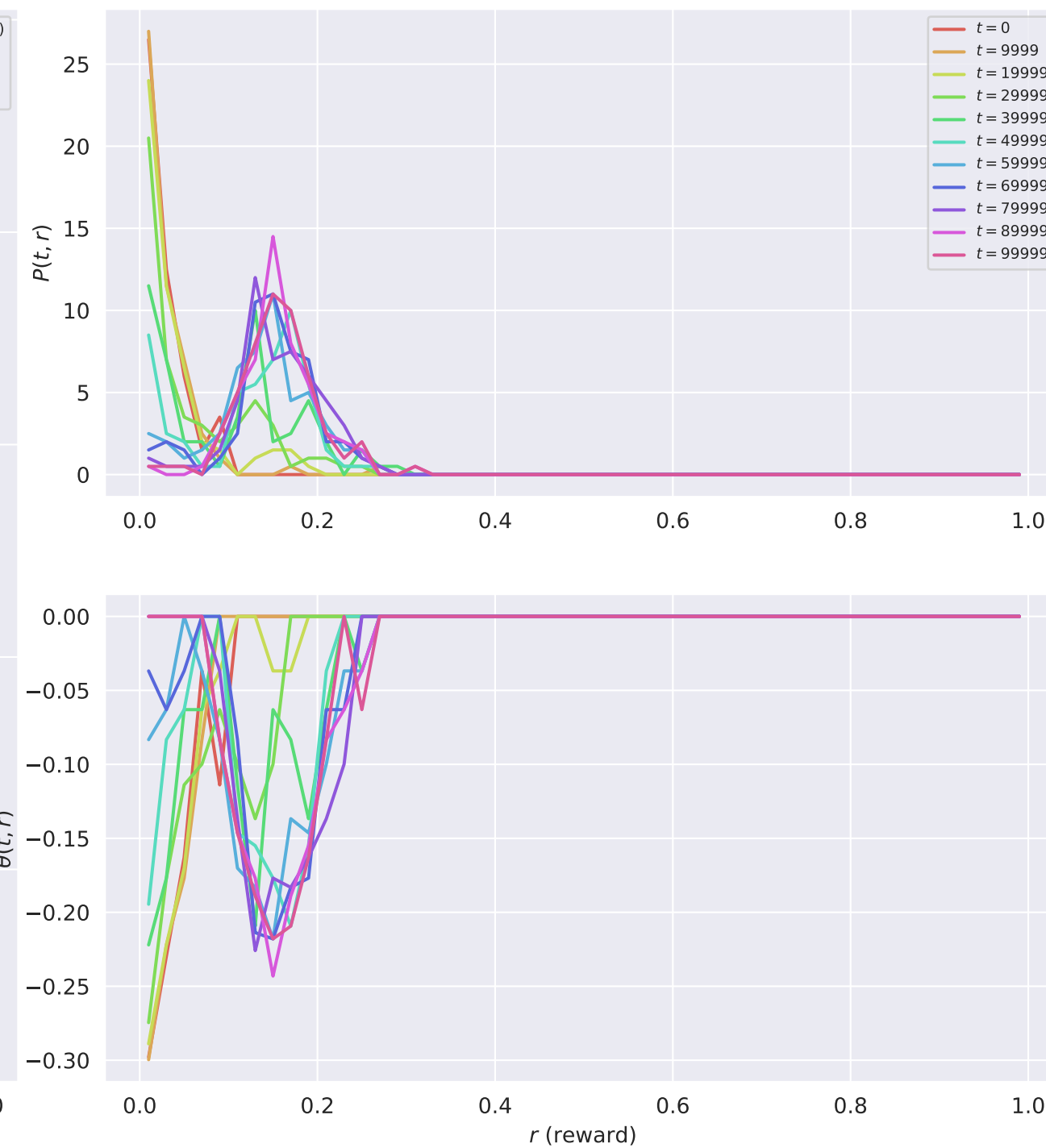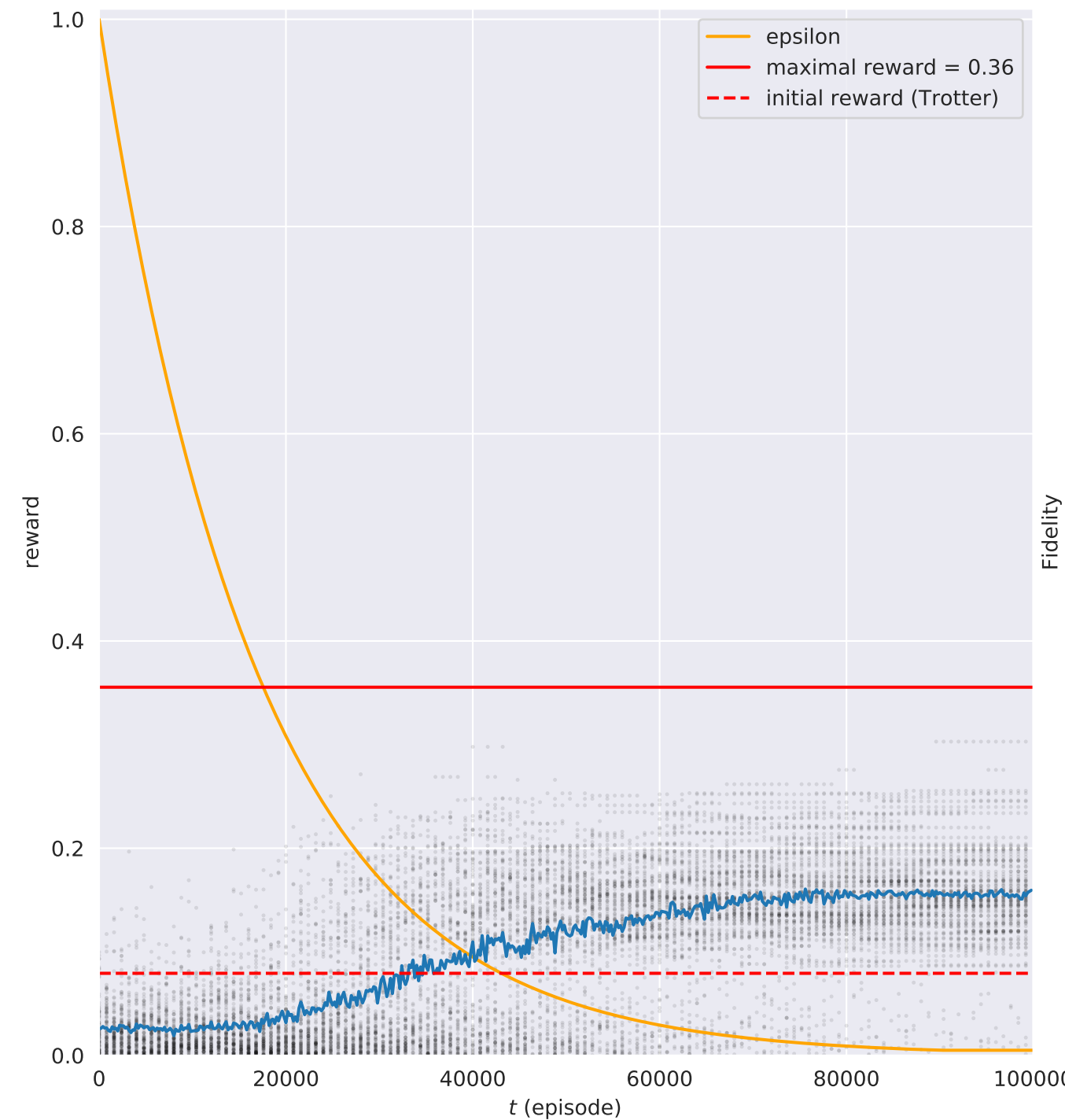 'system_class': 'LongRangeIsing',
 'time_segment': 100.0}

35_q_learning, n_tasks=100/100
{'bc': 'open',
 'epsilon_decay': 0.9999411315398542,
 'epsilon_max': 1.0,
 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
 'initial_state': 'random_product_state',
 'lam': 0.8,
 'learning_rate': 0.618,
 'model_update_spacing': 100,
 'n_allqubit_actions': 9,
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 'n_episodes': 100000,
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36_q_learning, n_tasks=100/100
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 'epsilon_min': 0.005,
 'ham_params': {'J': 1.0, 'g': 2.0, 'h': 2.0},
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 'lam': 0.8,
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