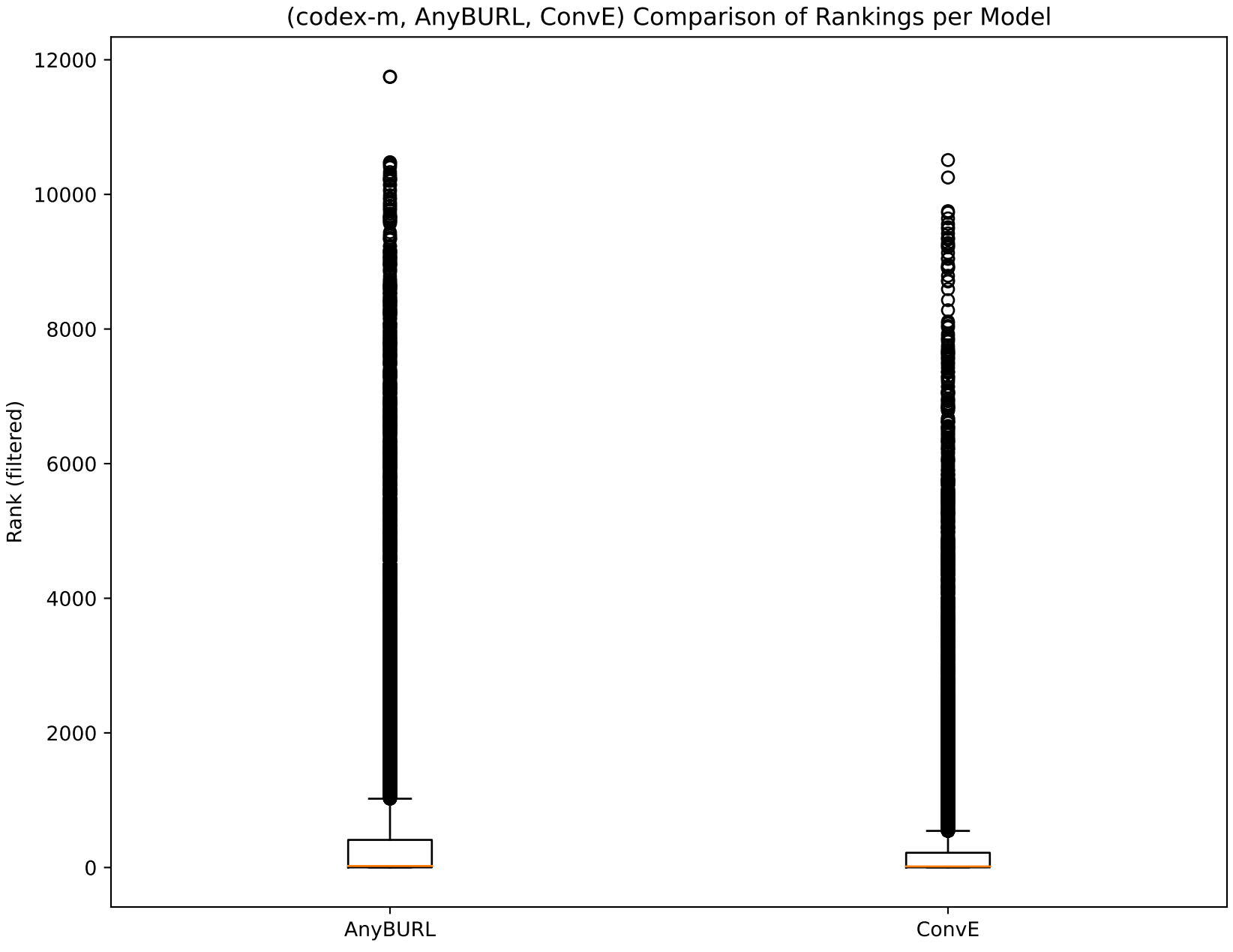
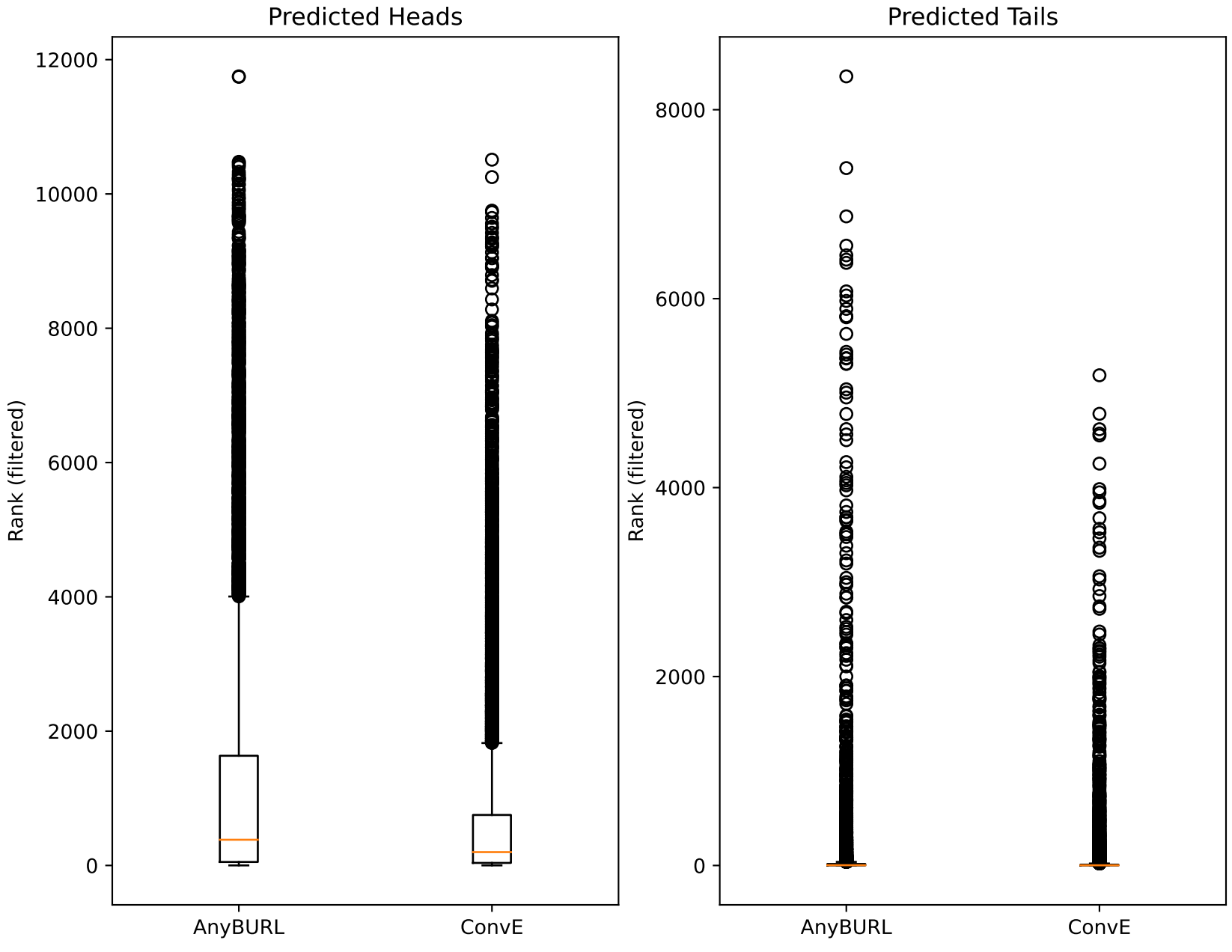
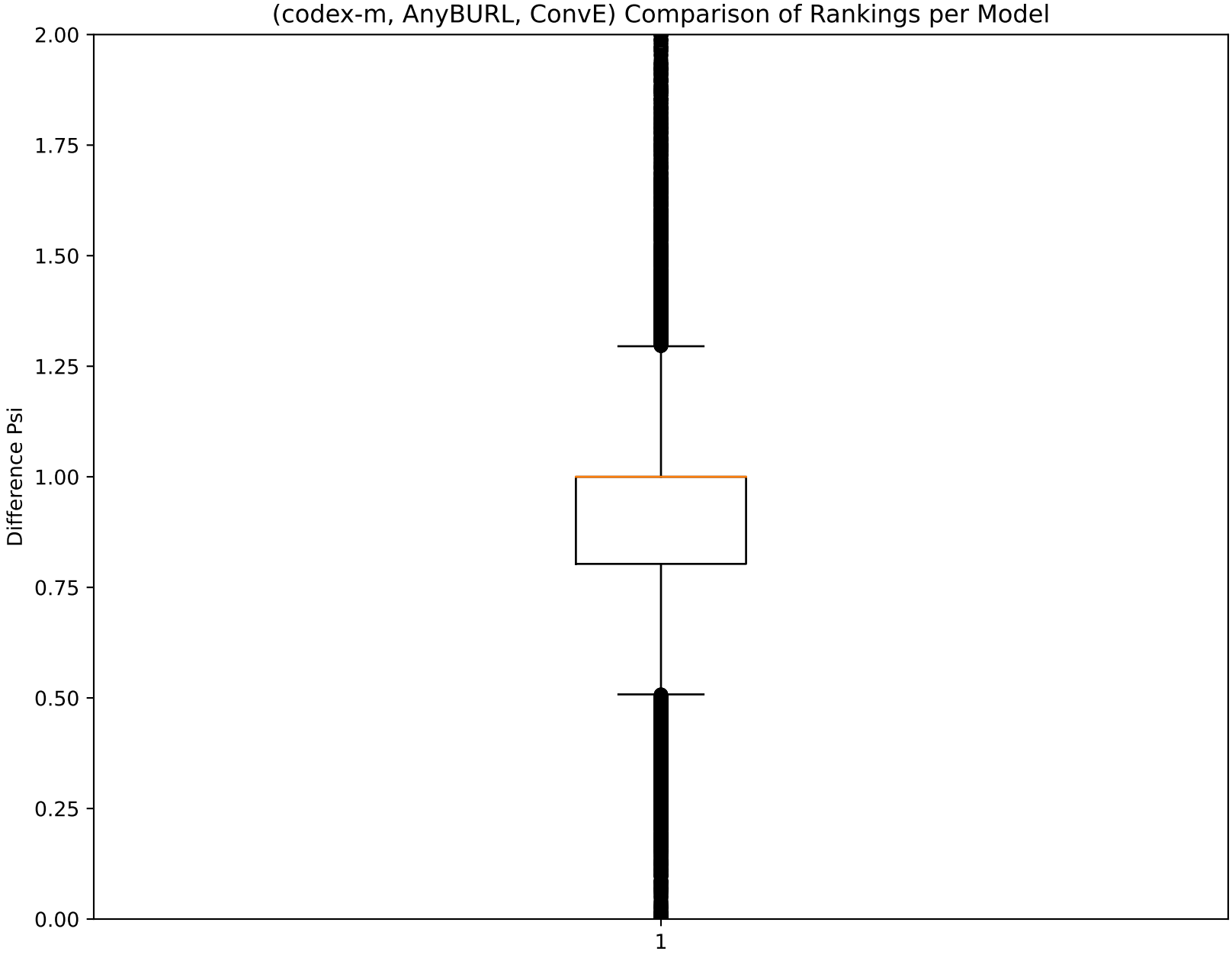
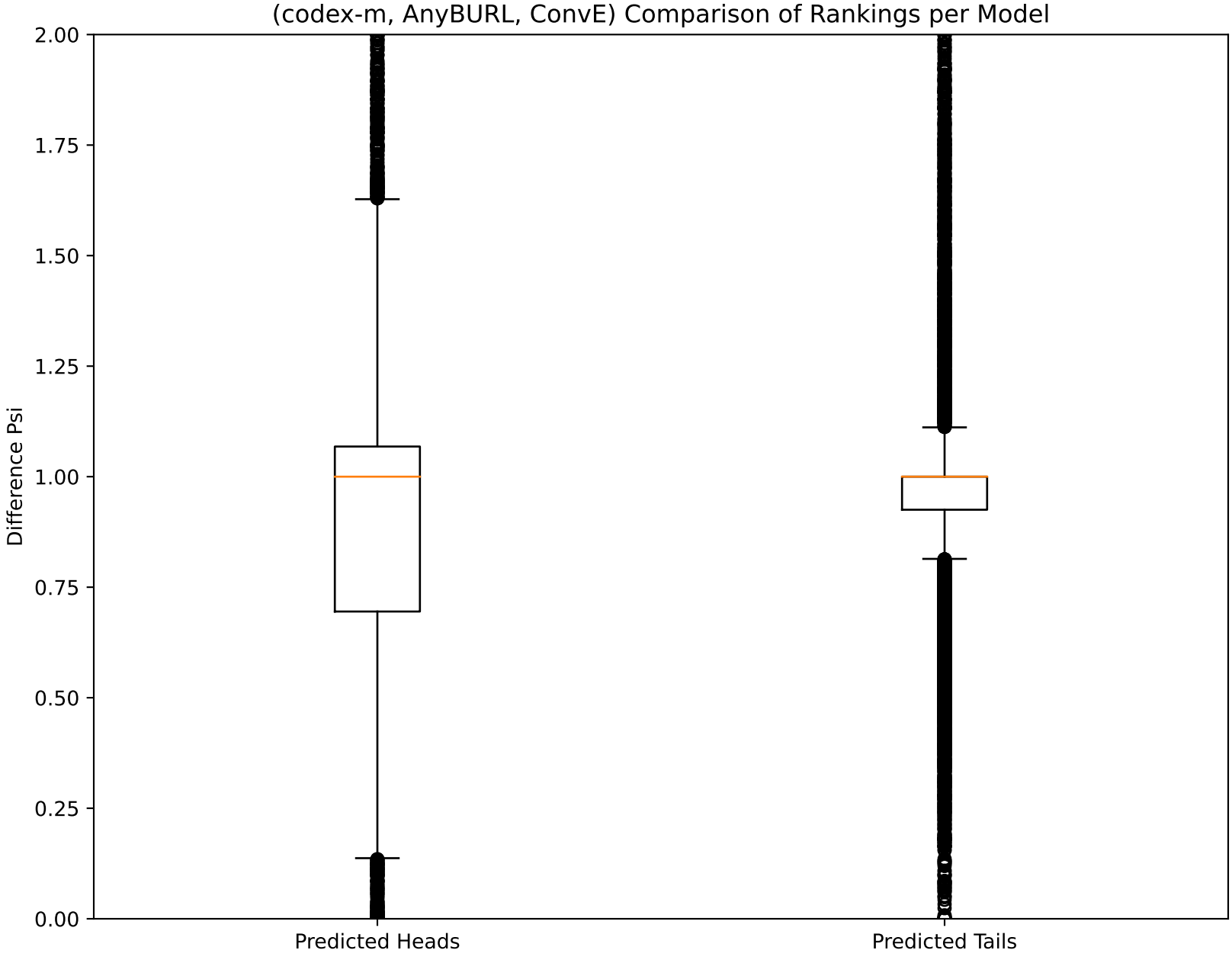
(codex-m, AnyBURL, ConvE) Metrics

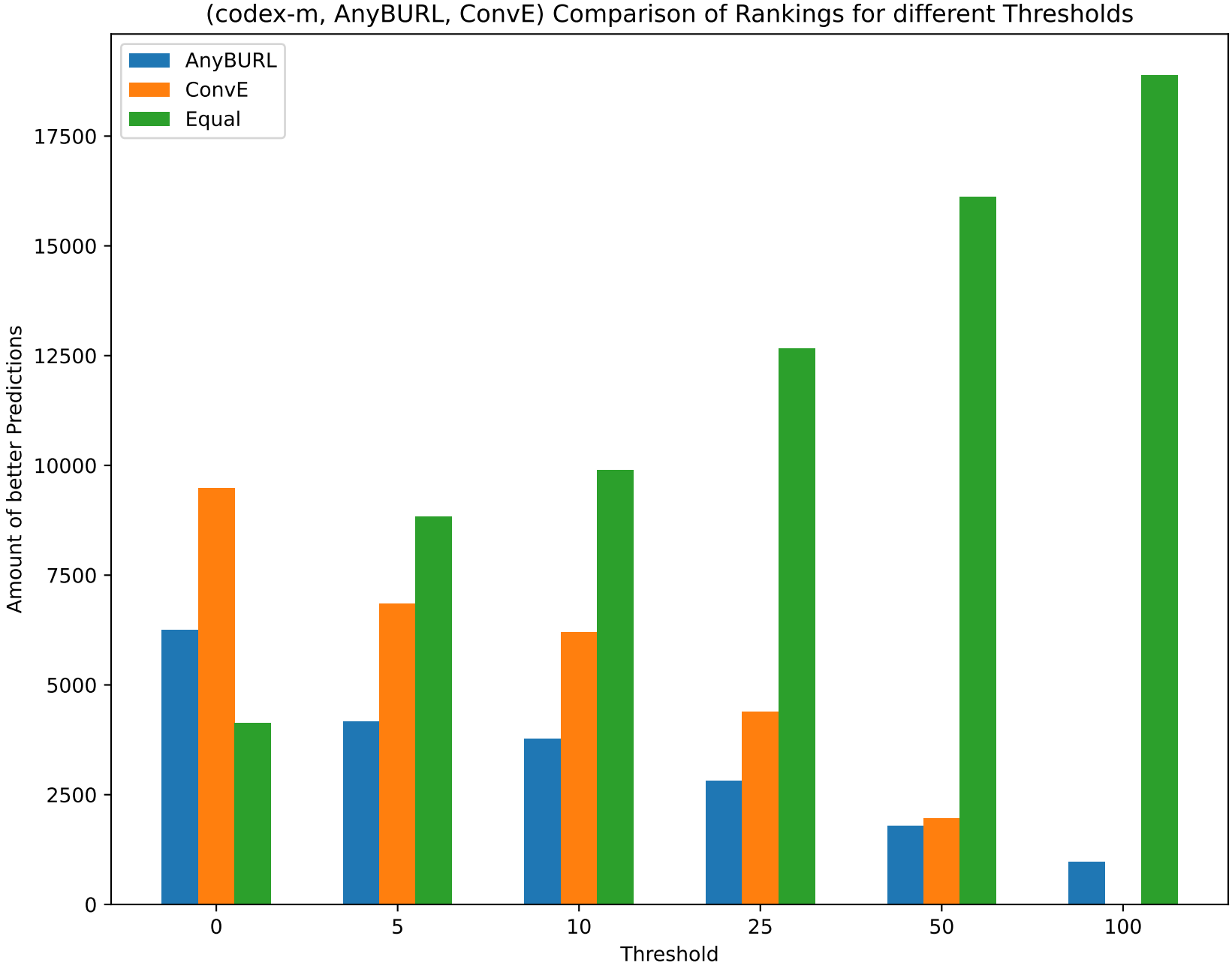
	MRR	Hits@1	Hits@10	Hits@100
AnyBURL	0.297	0.229	0.427	0.634
ConvE Combined	0.305	0.223	0.460	0.674
ConvE 1	0.321	0.240	0.475	0.690
ConvE 2	0.324	0.243	0.478	0.686
ConvE 3	0.323	0.244	0.474	0.686
ConvE 4	0.323	0.242	0.474	0.688
ConvE 5	0.322	0.242	0.474	0.688

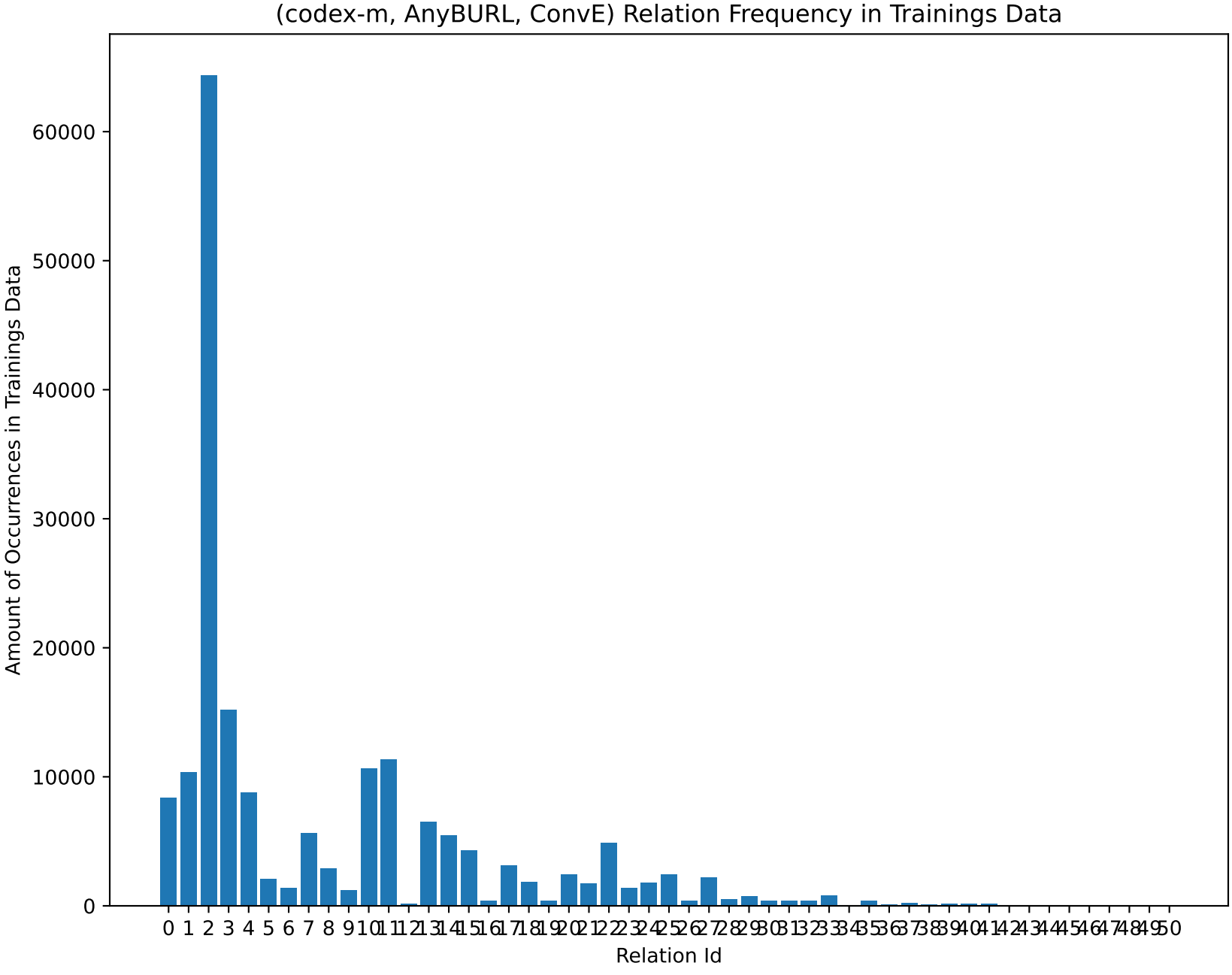

(codex-m, AnyBURL, ConvE) Comparison of Rankings per Model
Rank (filtered)
12000
10000
8000
6000
4000
2000
0
AnyBURL
ConvE

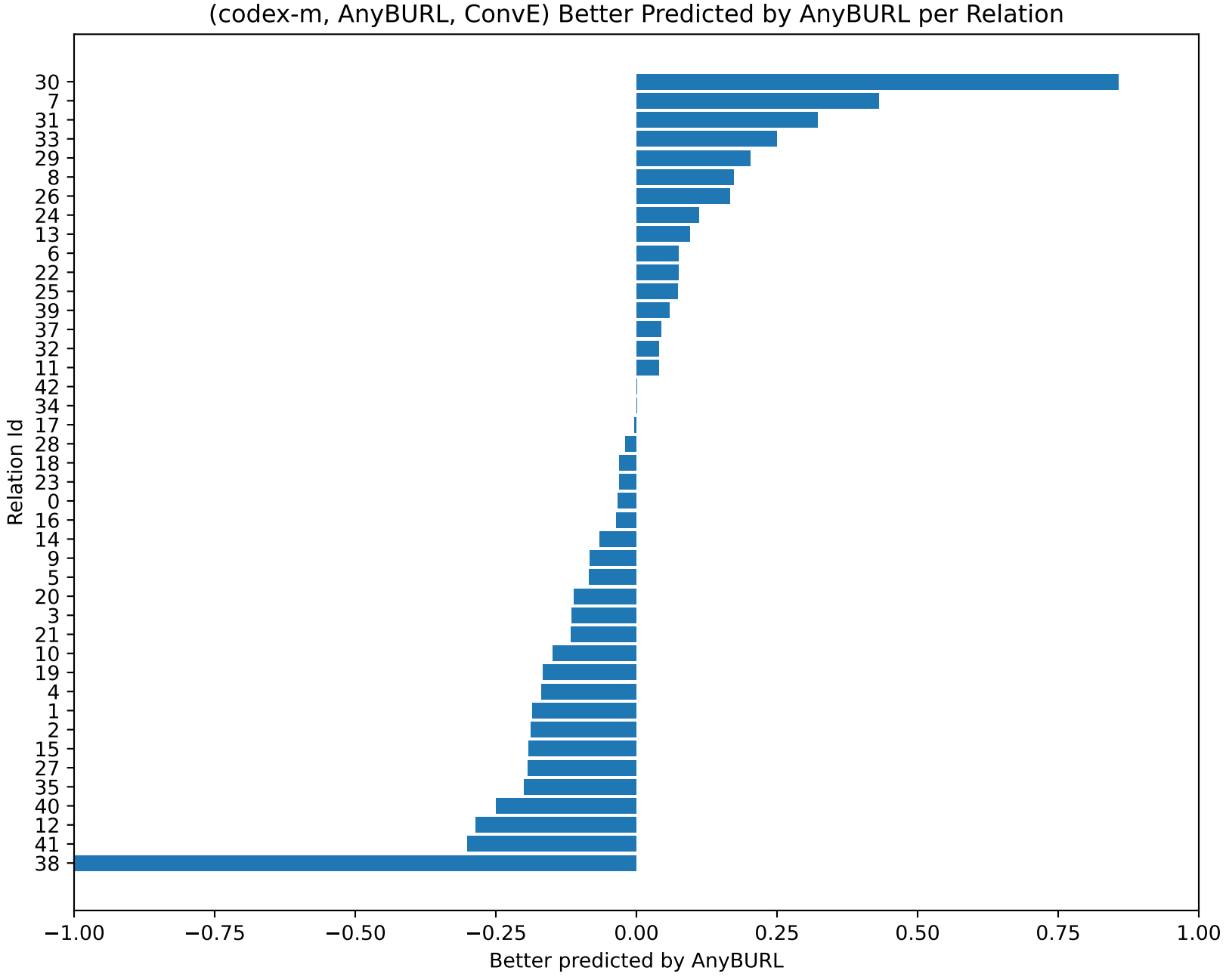

(codex-m, AnyBURL, ConvE) Comparison of Rankings per Model and Prediction Direction
Predicted Heads
Predicted Tails
Rank (filtered)
Rank (filtered)
0
2000
4000
6000
8000
10000
12000
AnyBURL
ConvE
AnyBURL
ConvE

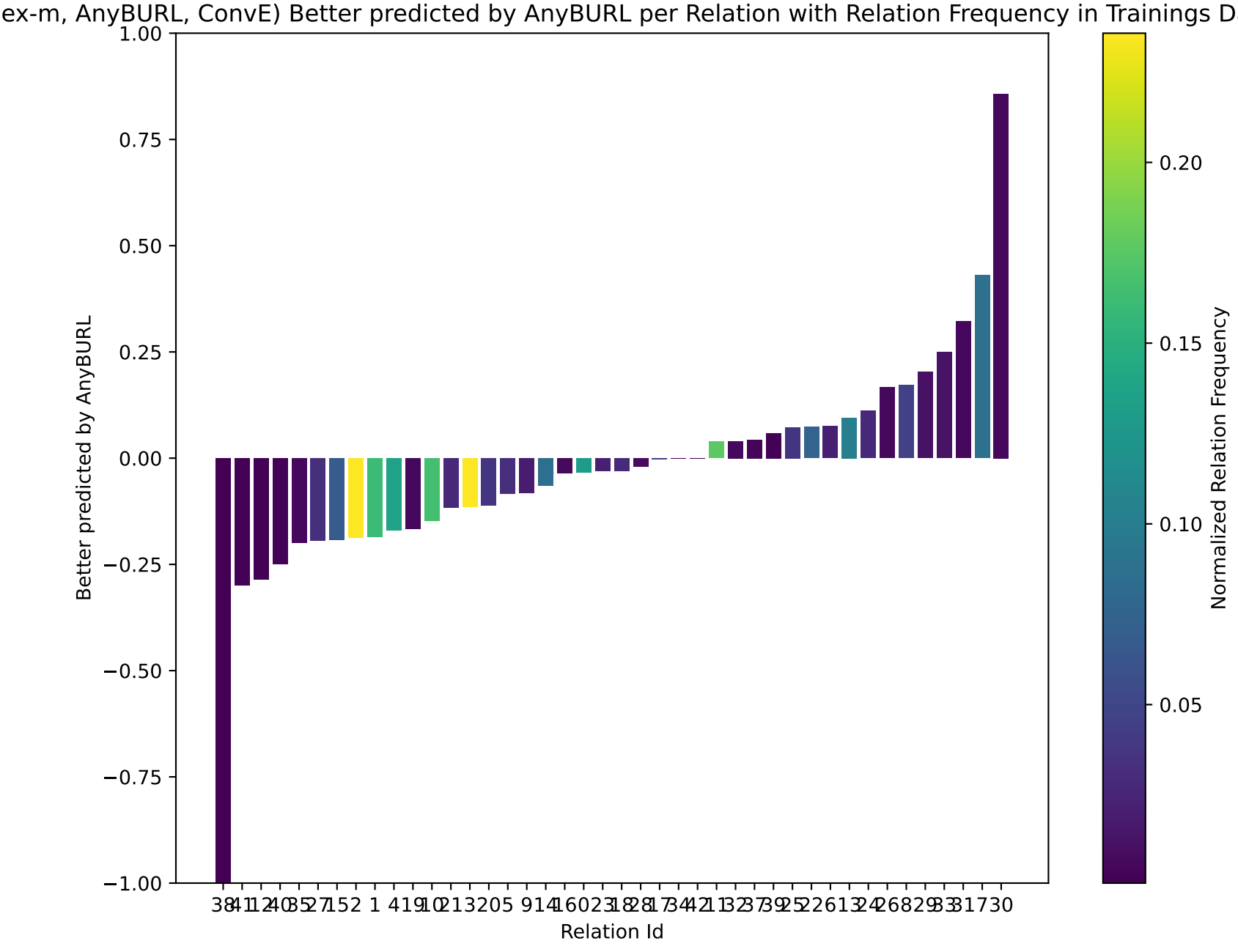

(codex-m, AnyBURL, ConvE) Comparison of Rankings per Model
Difference Psi
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
1

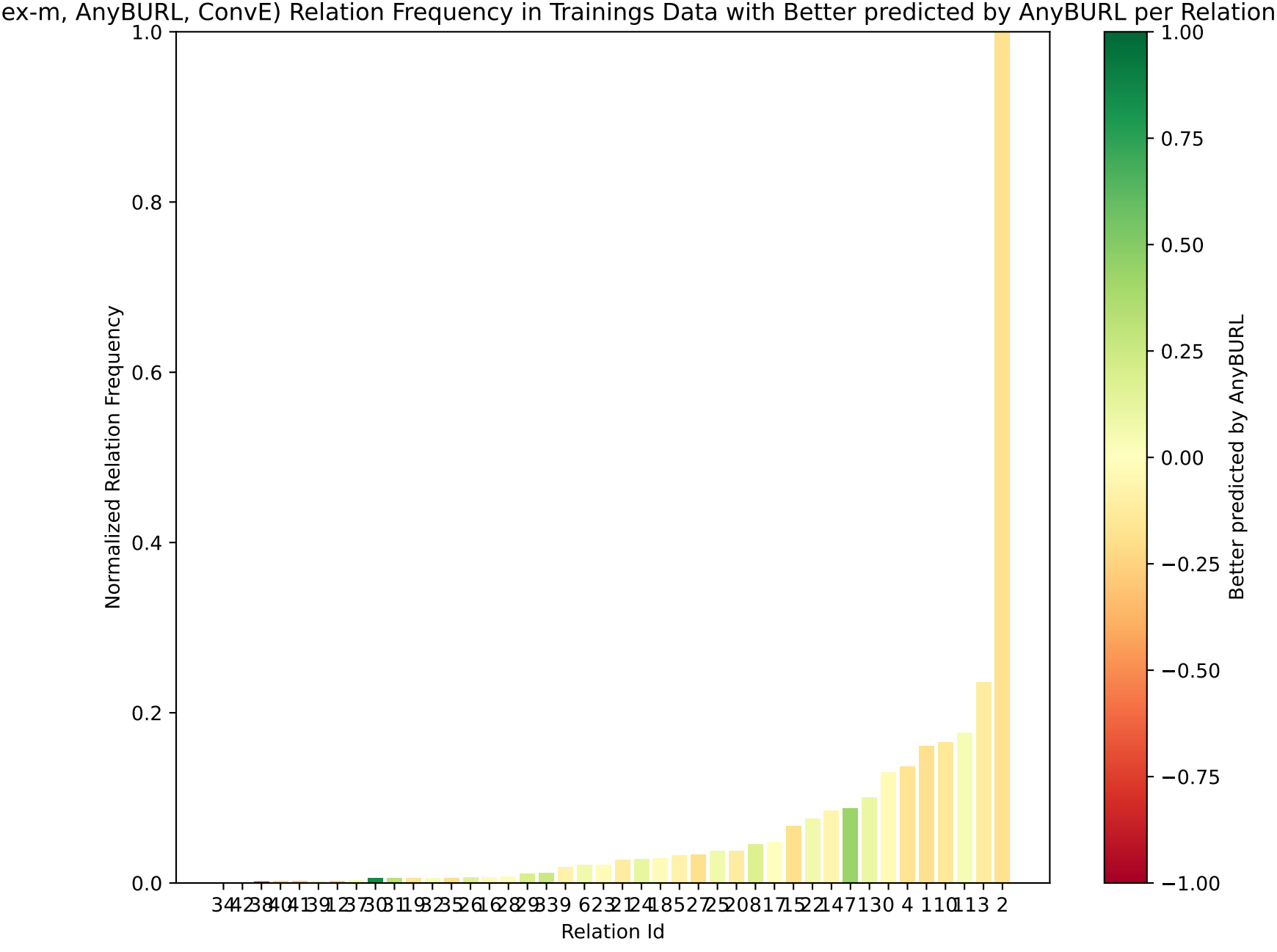

(codex-m, AnyBURL, ConvE) Comparison of Rankings per Model
Difference Psi
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
Predicted Heads
Predicted Tails

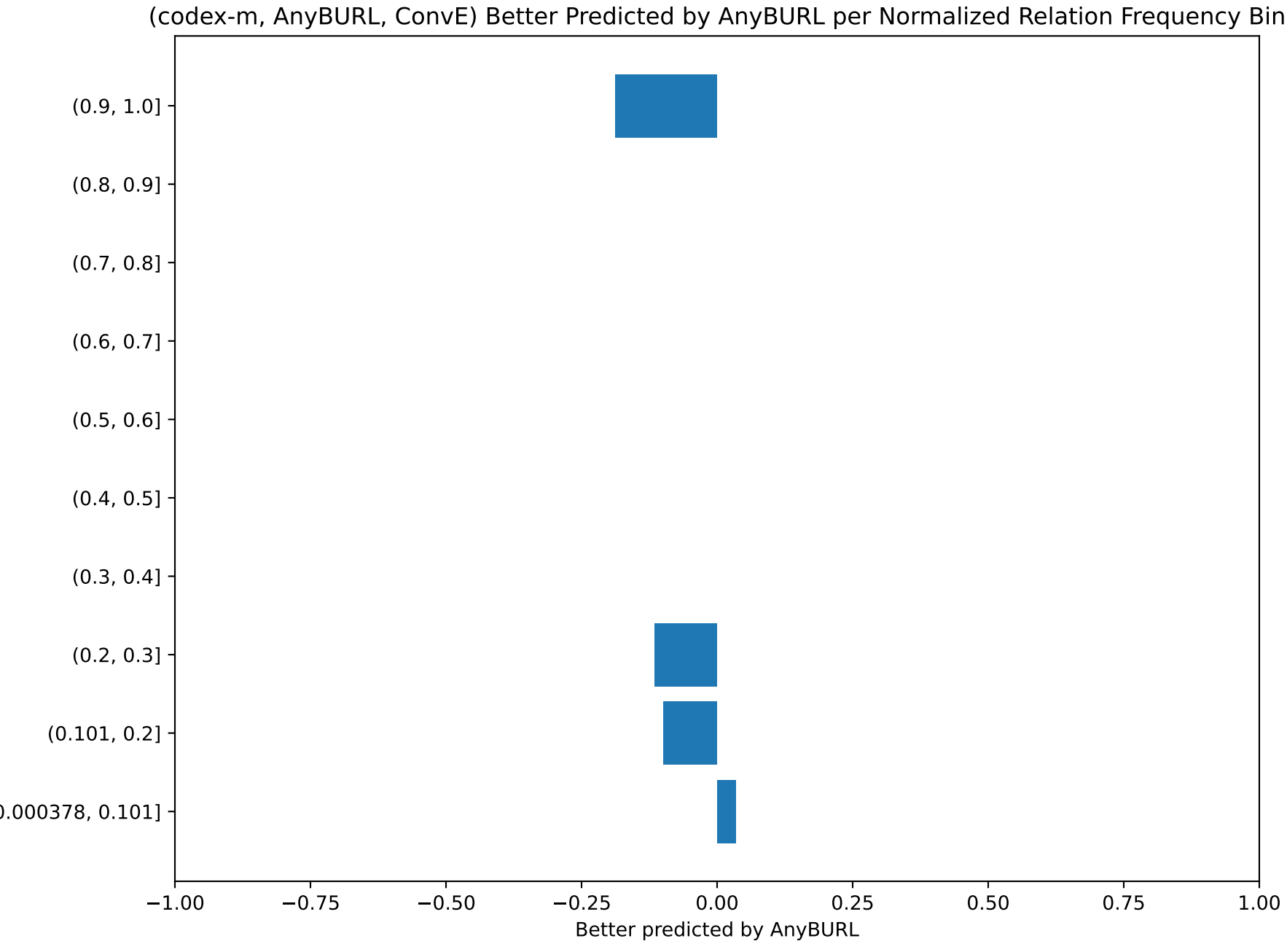

(codex-m, AnyBURL, ConvE) Comparison of Rankings for different Thresholds
AnyBURL
ConvE
Equal
Amount of better Predictions
0
2500
5000
7500
10000
12500
15000
17500
0
5
10
25
50
100
Threshold

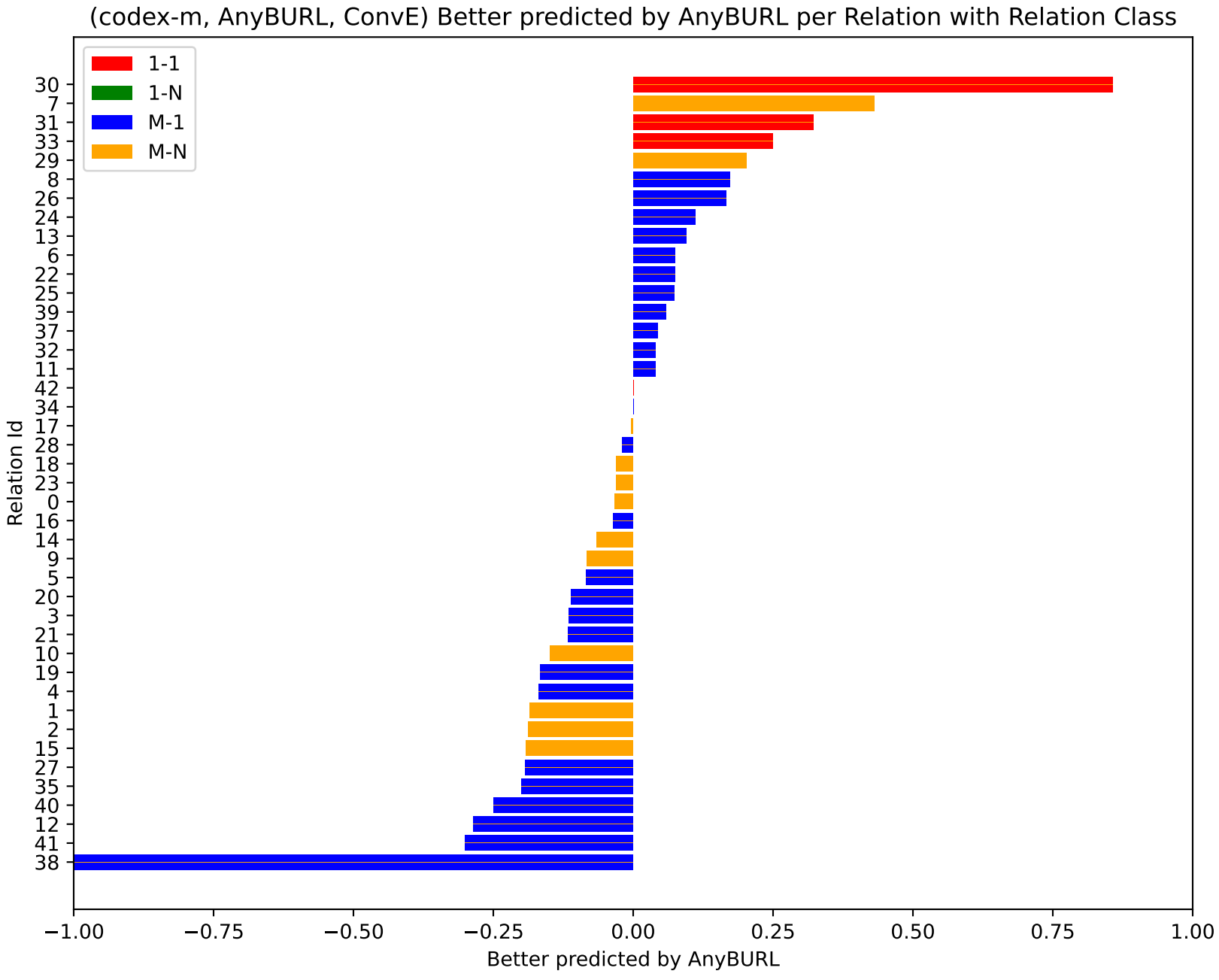

(codex-m, AnyBURL, ConvE) Relation Frequency in Trainings Data
Amount of Occurrences in Trainings Data
0
10000
20000
30000
40000
50000
60000
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50
Relation Id

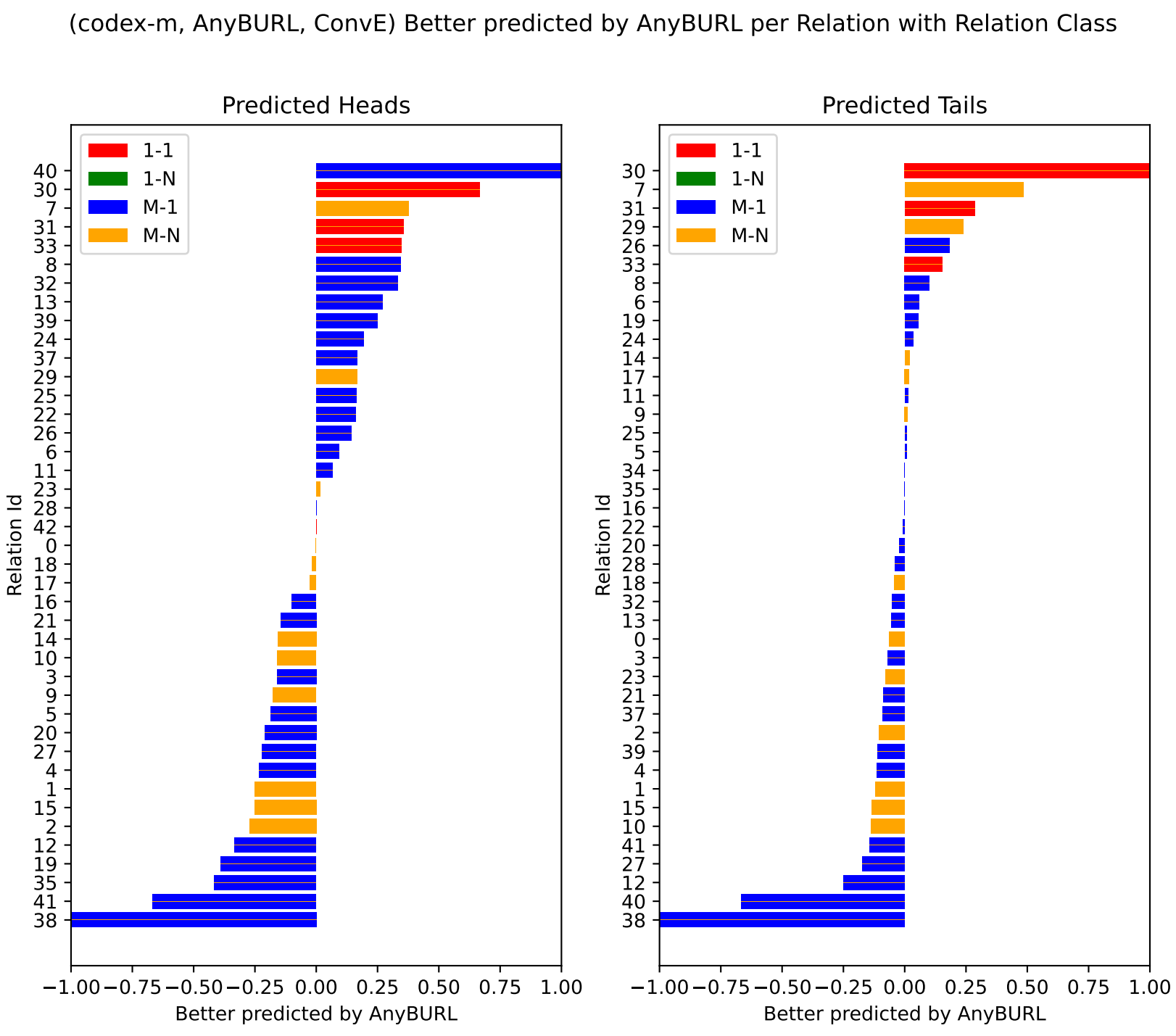

(codex-m, AnyBURL, ConvE) Better Predicted by AnyBURL per Relation
Relation Id
30
7
31
33
29
8
26
24
13
6
22
25
39
37
32
11
42
34
17
28
18
23
0
16
14
9
5
20
3
21
10
19
4
1
2
15
27
35
40
12
41
38
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
Better predicted by AnyBURL


ex-m, AnyBURL, ConvE) Better predicted by AnyBURL per Relation with Relation Frequency in Trainings Data
Better predicted by AnyBURL
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
Relation Id
38 41 12 40 35 27 152 1 4 19 10 213 205 9 14 160 23 18 28 17 34 42 21 132 37 39 25 22 6 13 24 26 8 29 33 31 7 30
Normalized Relation Frequency
0.20
0.15
0.10
0.05


ex-m, AnyBURL, ConvE) Relation Frequency in Trainings Data with Better predicted by AnyBURL per Relation
Normalized Relation Frequency
0.0
0.2
0.4
0.6
0.8
1.0
Relation Id
34 42 38 40 41 39 1 23 7 30 31 19 32 35 26 16 28 29 33 9 39 6 22 3 21 24 18 5 27 25 20 8 17 15 22 14 7 1 30 4 1 10 1 13 2
Better predicted by AnyBURL
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00


(codex-m, AnyBURL, ConvE) Better Predicted by AnyBURL per Normalized Relation Frequency Bin
(0.9, 1.0]
(0.8, 0.9]
(0.7, 0.8]
(0.6, 0.7]
(0.5, 0.6]
(0.4, 0.5]
(0.3, 0.4]
(0.2, 0.3]
(0.101, 0.2]
0.000378, 0.101]
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
Better predicted by AnyBURL


(codex-m, AnyBURL, ConvE) Better predicted by AnyBURL per Relation with Relation Class
1-1
1-N
M-1
M-N
Relation Id
30
7
31
33
29
8
26
24
13
6
22
25
39
37
32
11
42
34
17
28
18
23
0
16
14
9
5
20
3
21
10
19
4
1
2
15
27
35
40
12
41
38
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
Better predicted by AnyBURL

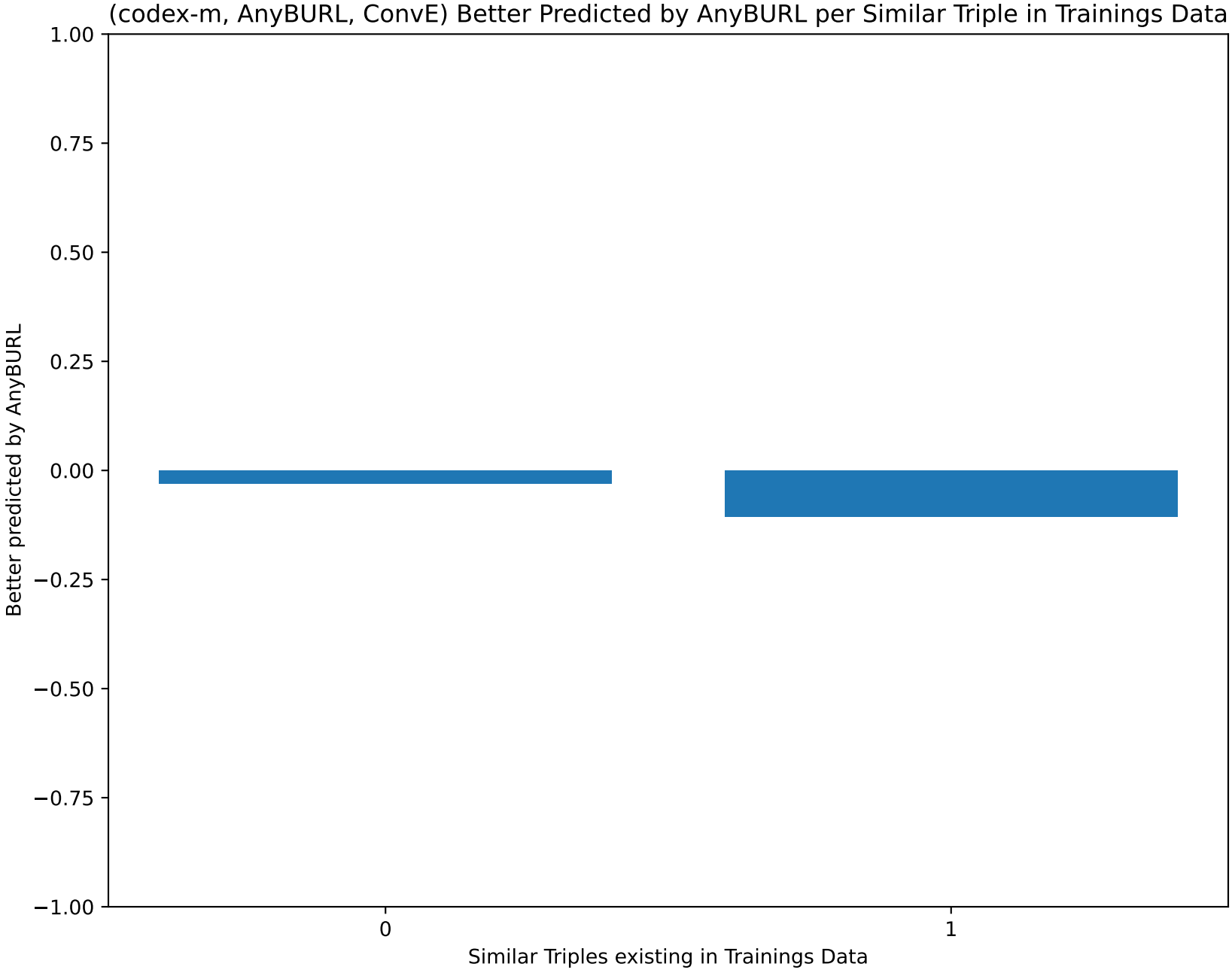

(codex-m, AnyBURL, ConvE) Better predicted by AnyBURL per Relation with Relation Class
Predicted Heads
Predicted Tails
1-1
1-N
M-1
M-N
Relation Id
Better predicted by AnyBURL
−1.00 −0.75 −0.50 −0.25 0.00 0.25 0.50 0.75 1.00

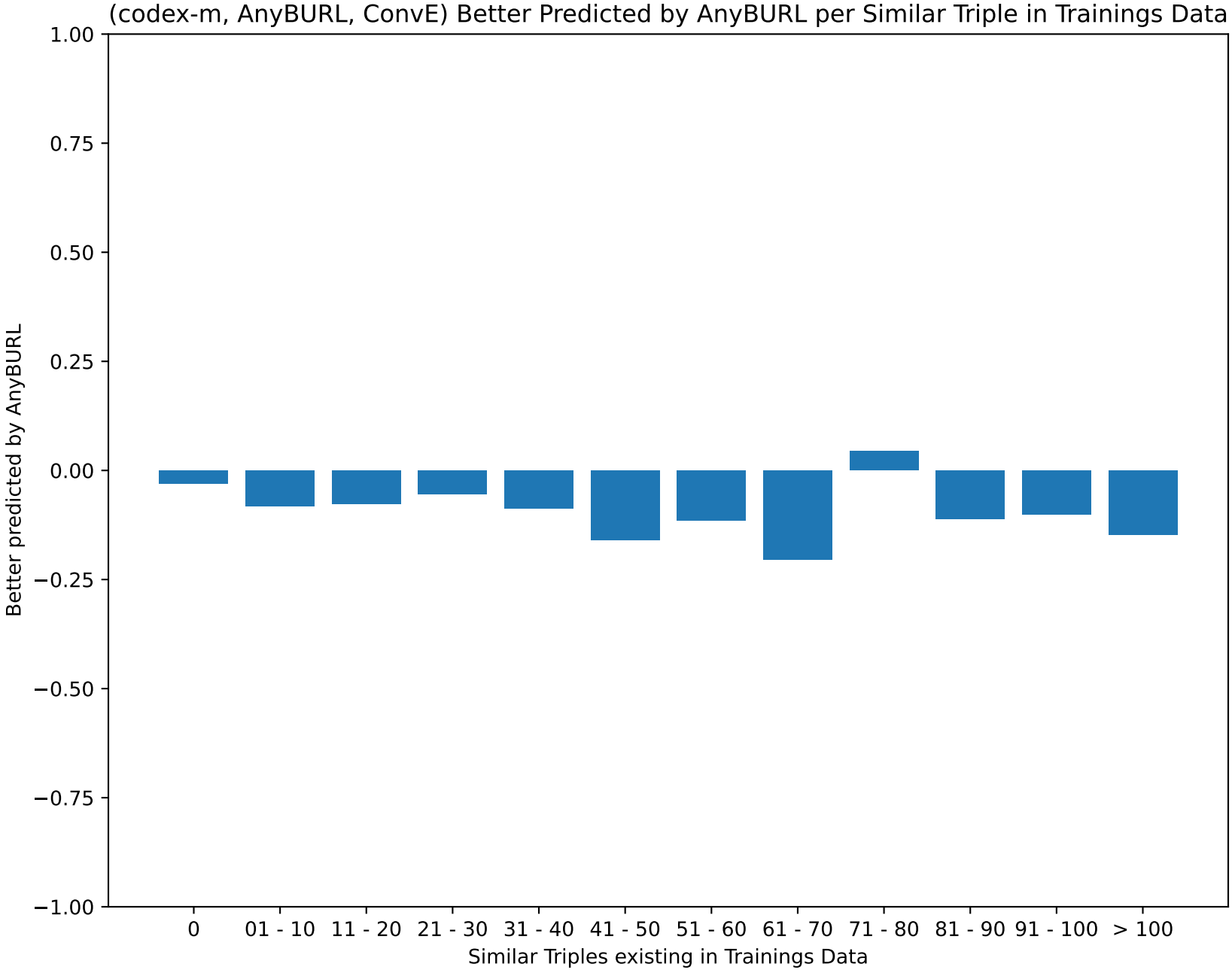
(codex-m, AnyBURL, ConvE) Better predicted per Relation Class in %

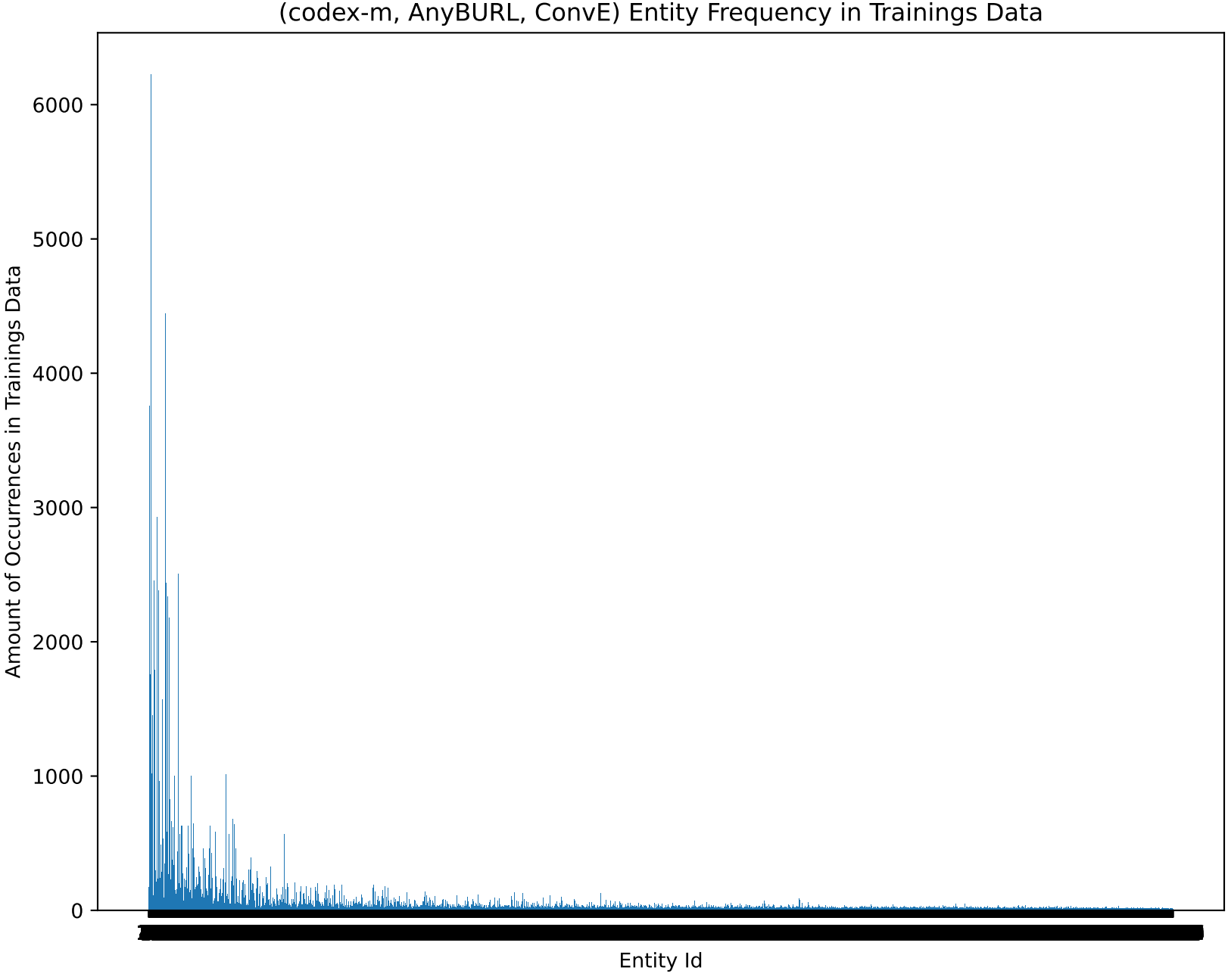
	AnyBURL	ConvE	Equal
1-1	29.286%	0.000%	70.714%
1-N	0.000%	0.000%	0.000%
M-1	15.584%	19.344%	65.072%
M-N	15.287%	27.940%	56.773%

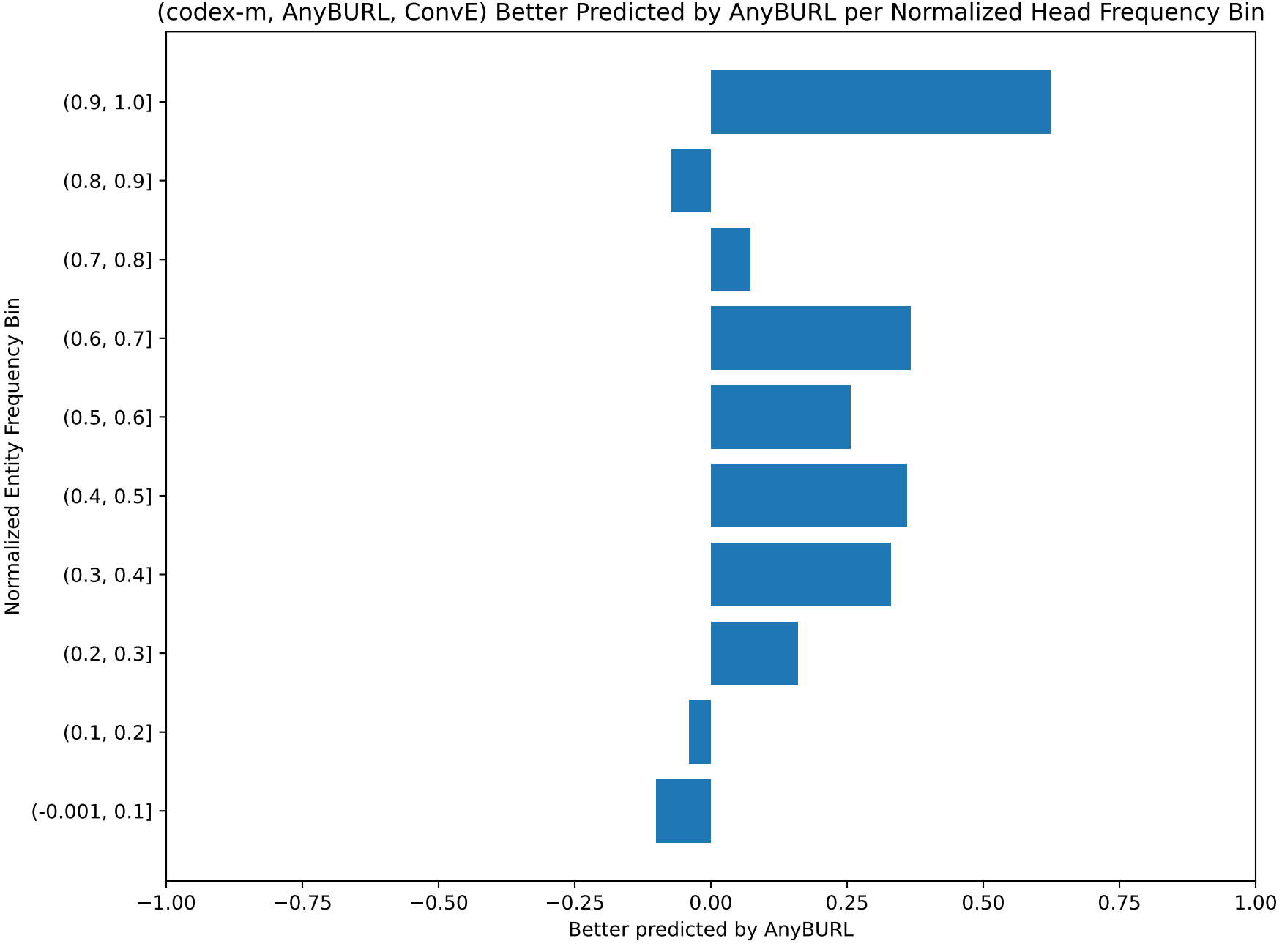
(codex-m, AnyBURL, ConvE) Better predicted per Relation Class in % (cleaned)

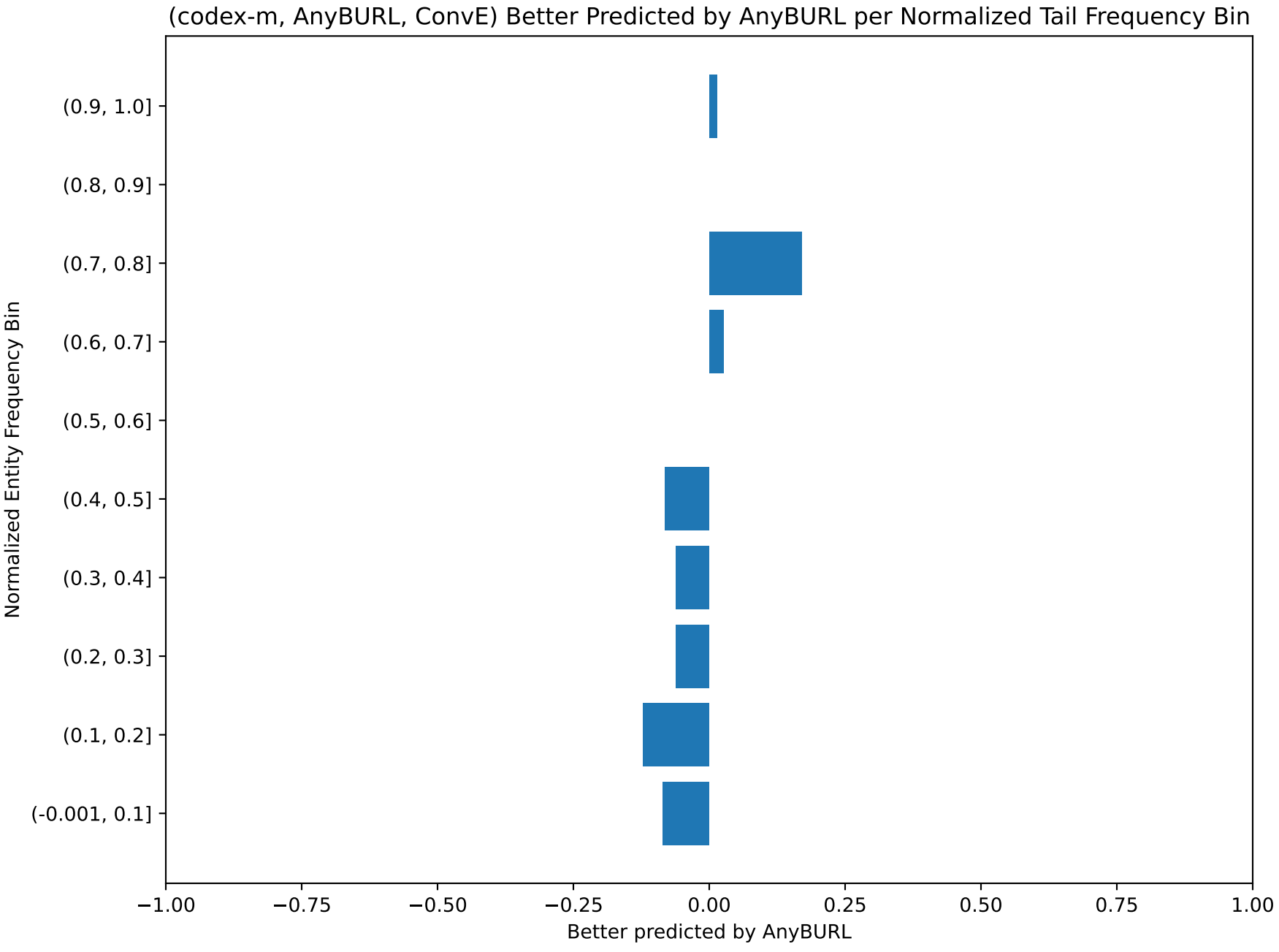
	AnyBURL	ConvE	Equal
1-1	29.286%	0.000%	70.714%
1-N	22.663%	26.192%	51.146%
M-1	9.240%	13.208%	77.553%
M-N	15.287%	27.940%	56.773%

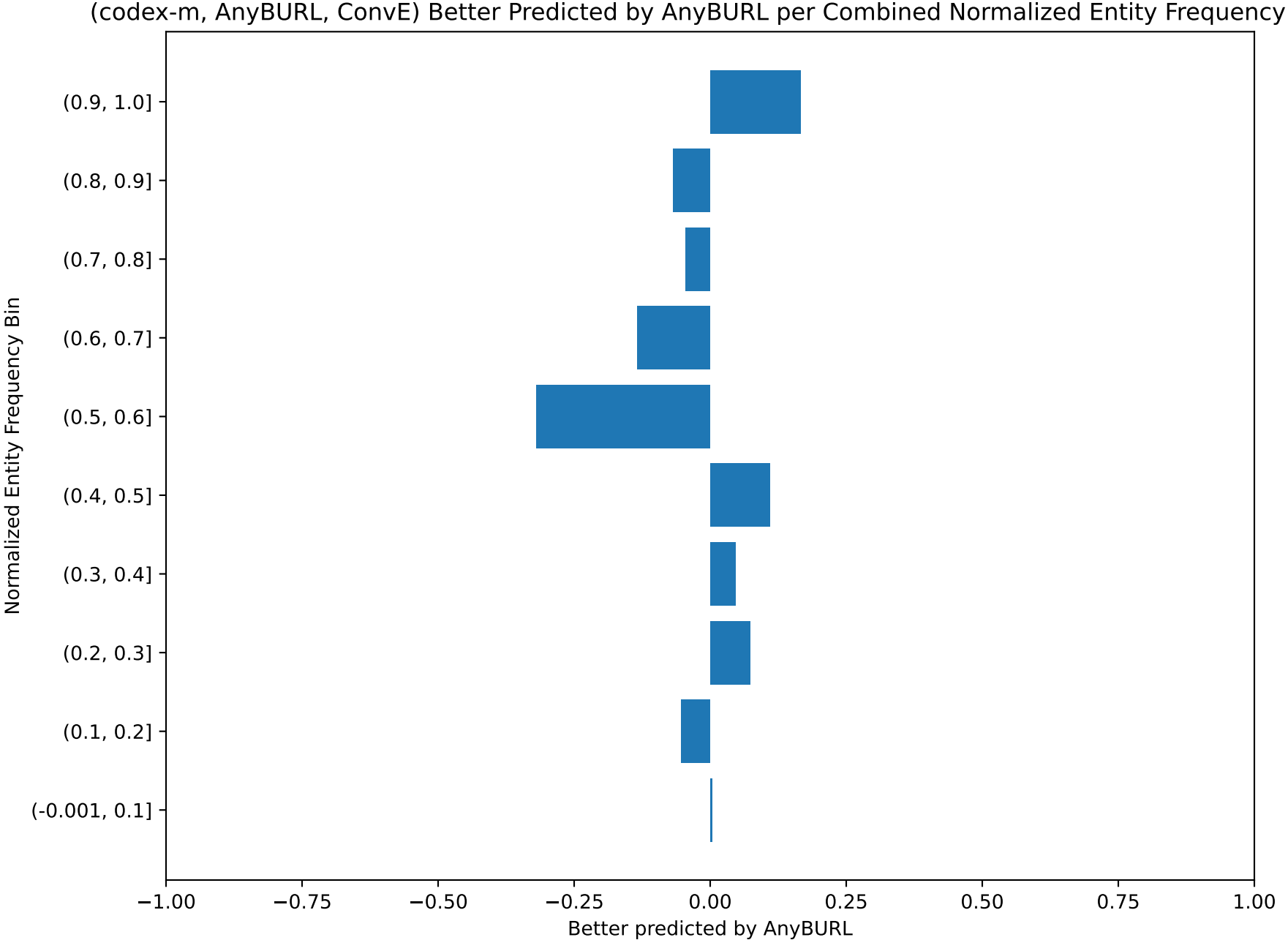

(codex-m, AnyBURL, ConvE) Better Predicted by AnyBURL per Similar Triple in Trainings Data
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
Better predicted by AnyBURL
0
1
Similar Triples existing in Trainings Data

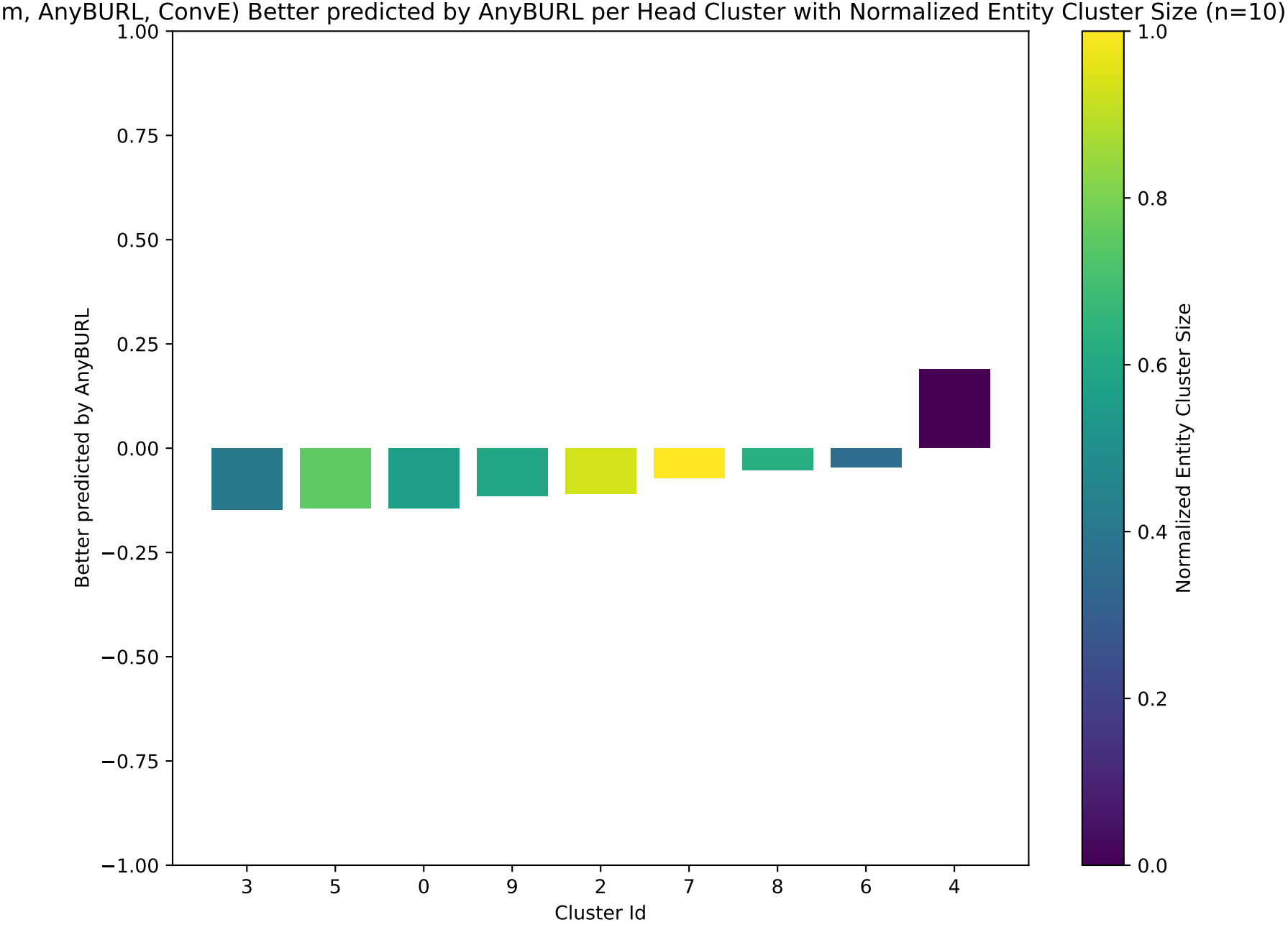

(codex-m, AnyBURL, ConvE) Better Predicted by AnyBURL per Similar Triple in Trainings Data
Better predicted by AnyBURL
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
0
01 - 10
11 - 20
21 - 30
31 - 40
41 - 50
51 - 60
61 - 70
71 - 80
81 - 90
91 - 100
> 100
Similar Triples existing in Trainings Data

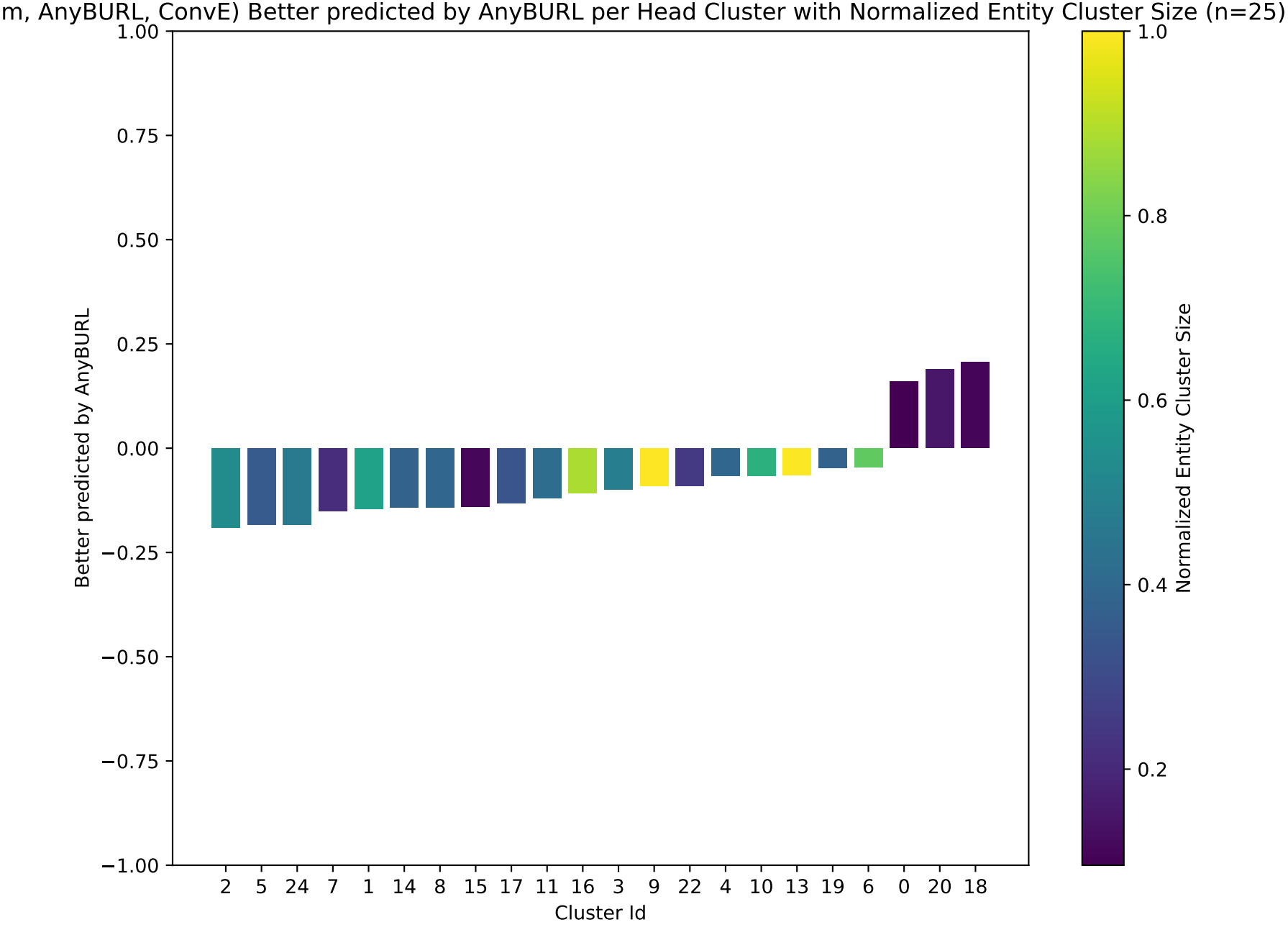

(codex-m, AnyBURL, ConvE) Entity Frequency in Trainings Data
Amount of Occurrences in Trainings Data
0
1000
2000
3000
4000
5000
6000
Entity Id

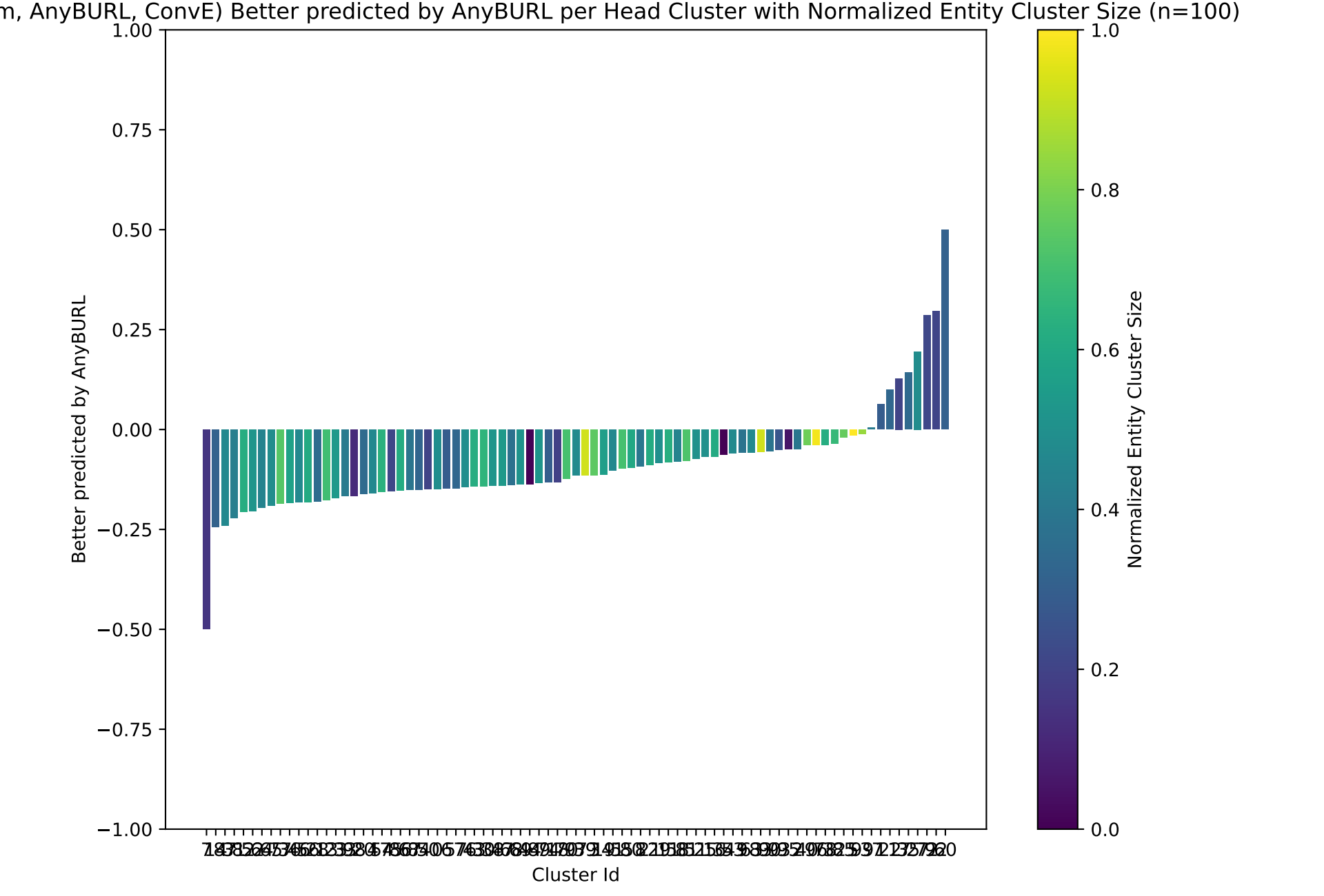

(codex-m, AnyBURL, ConvE) Better Predicted by AnyBURL per Normalized Head Frequency Bin
Normalized Entity Frequency Bin
(0.9, 1.0]
(0.8, 0.9]
(0.7, 0.8]
(0.6, 0.7]
(0.5, 0.6]
(0.4, 0.5]
(0.3, 0.4]
(0.2, 0.3]
(0.1, 0.2]
(-0.001, 0.1]
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
Better predicted by AnyBURL

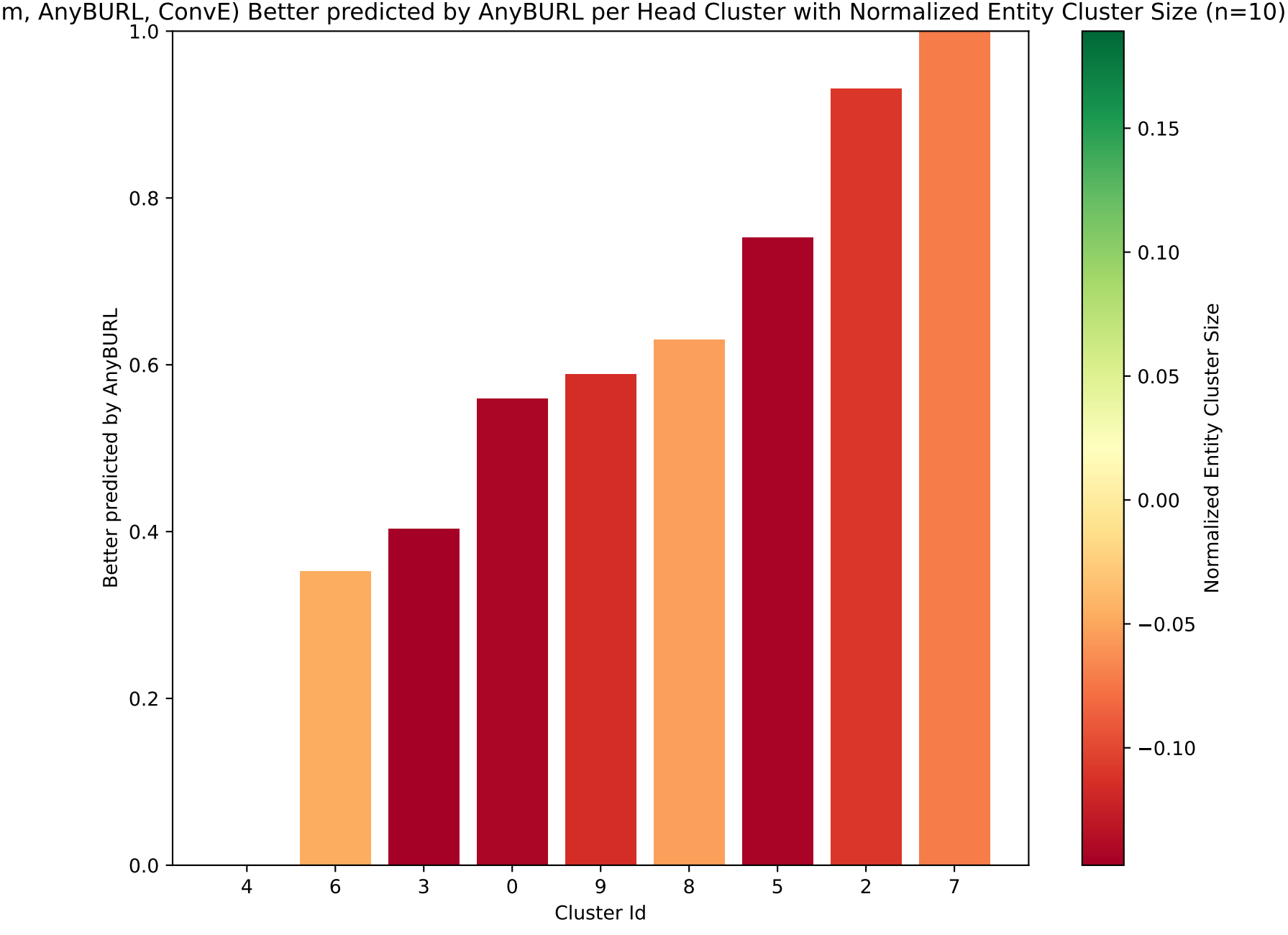

(codex-m, AnyBURL, ConvE) Better Predicted by AnyBURL per Normalized Tail Frequency Bin
Normalized Entity Frequency Bin
(0.9, 1.0]
(0.8, 0.9]
(0.7, 0.8]
(0.6, 0.7]
(0.5, 0.6]
(0.4, 0.5]
(0.3, 0.4]
(0.2, 0.3]
(0.1, 0.2]
(-0.001, 0.1]
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
Better predicted by AnyBURL

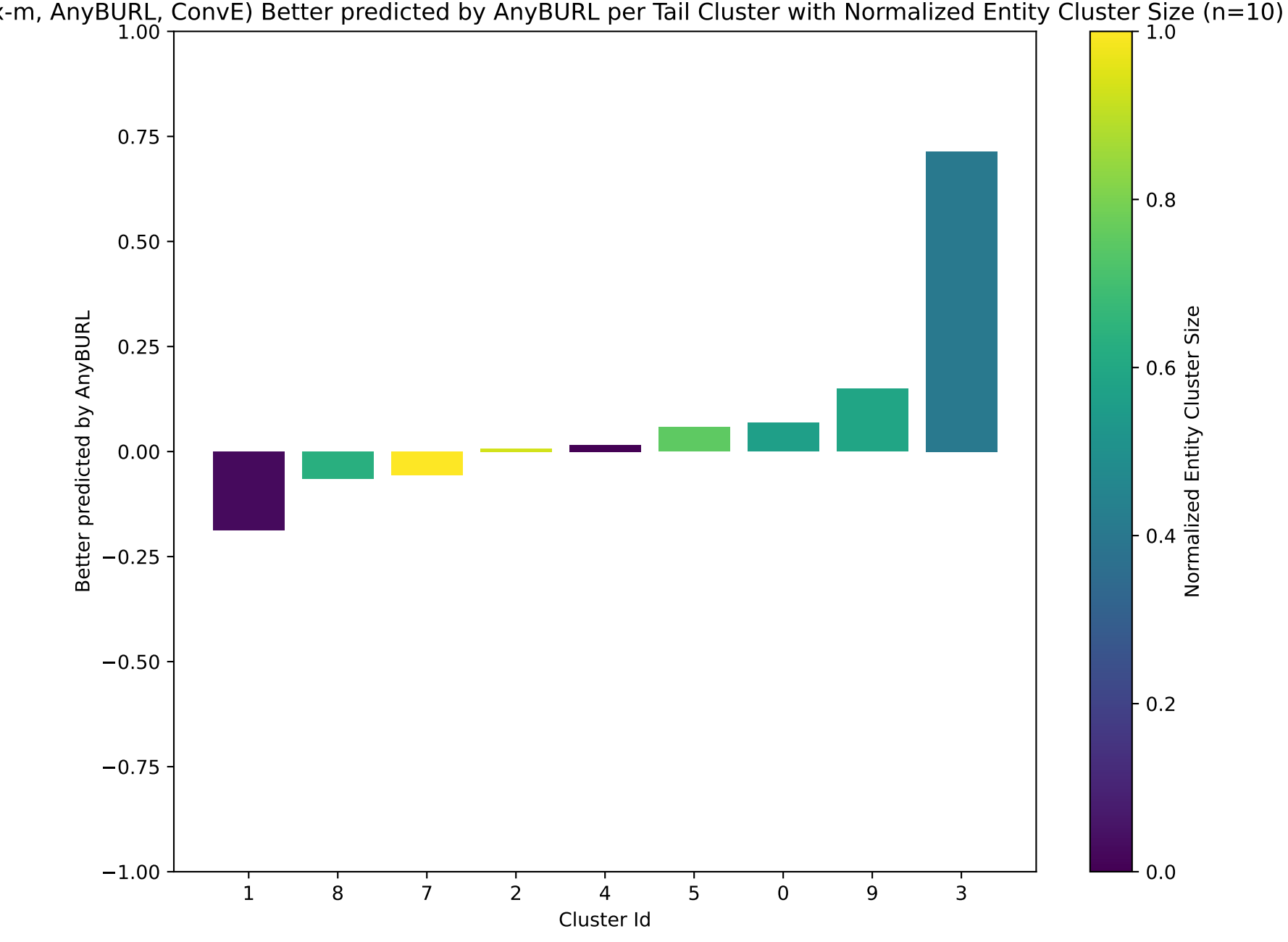

(codex-m, AnyBURL, ConvE) Better Predicted by AnyBURL per Combined Normalized Entity Frequency Bin
Normalized Entity Frequency Bin
(0.9, 1.0]
(0.8, 0.9]
(0.7, 0.8]
(0.6, 0.7]
(0.5, 0.6]
(0.4, 0.5]
(0.3, 0.4]
(0.2, 0.3]
(0.1, 0.2]
(-0.001, 0.1]
−1.00
−0.75
−0.50
−0.25
0.00
0.25
0.50
0.75
1.00
Better predicted by AnyBURL

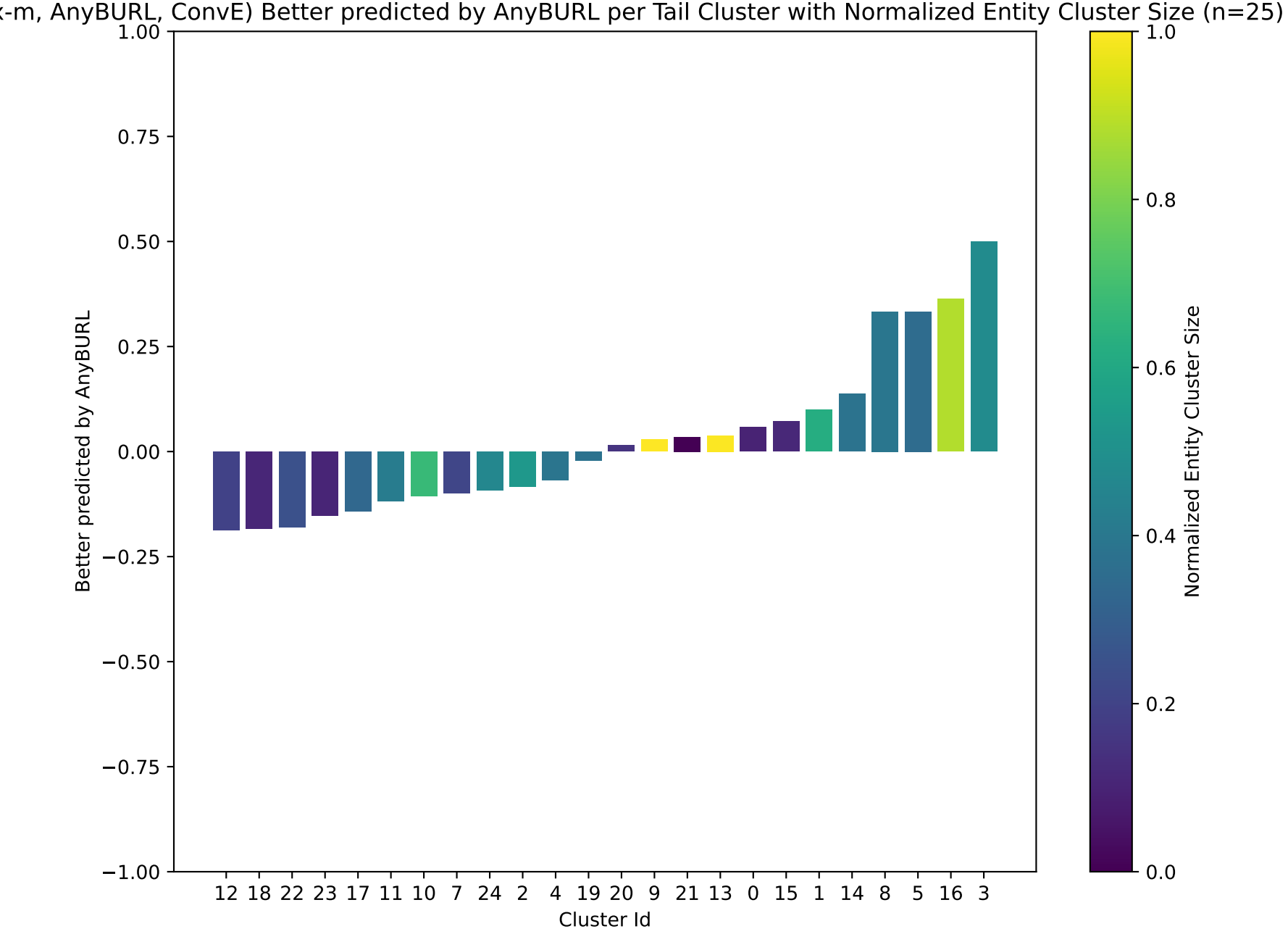

m, AnyBURL, ConvE) Better predicted by AnyBURL per Head Cluster with Normalized Entity Cluster Size (n=10)
Better predicted by AnyBURL
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
3
5
0
9
2
7
8
6
4
Cluster Id
Normalized Entity Cluster Size
1.0
0.8
0.6
0.4
0.2
0.0

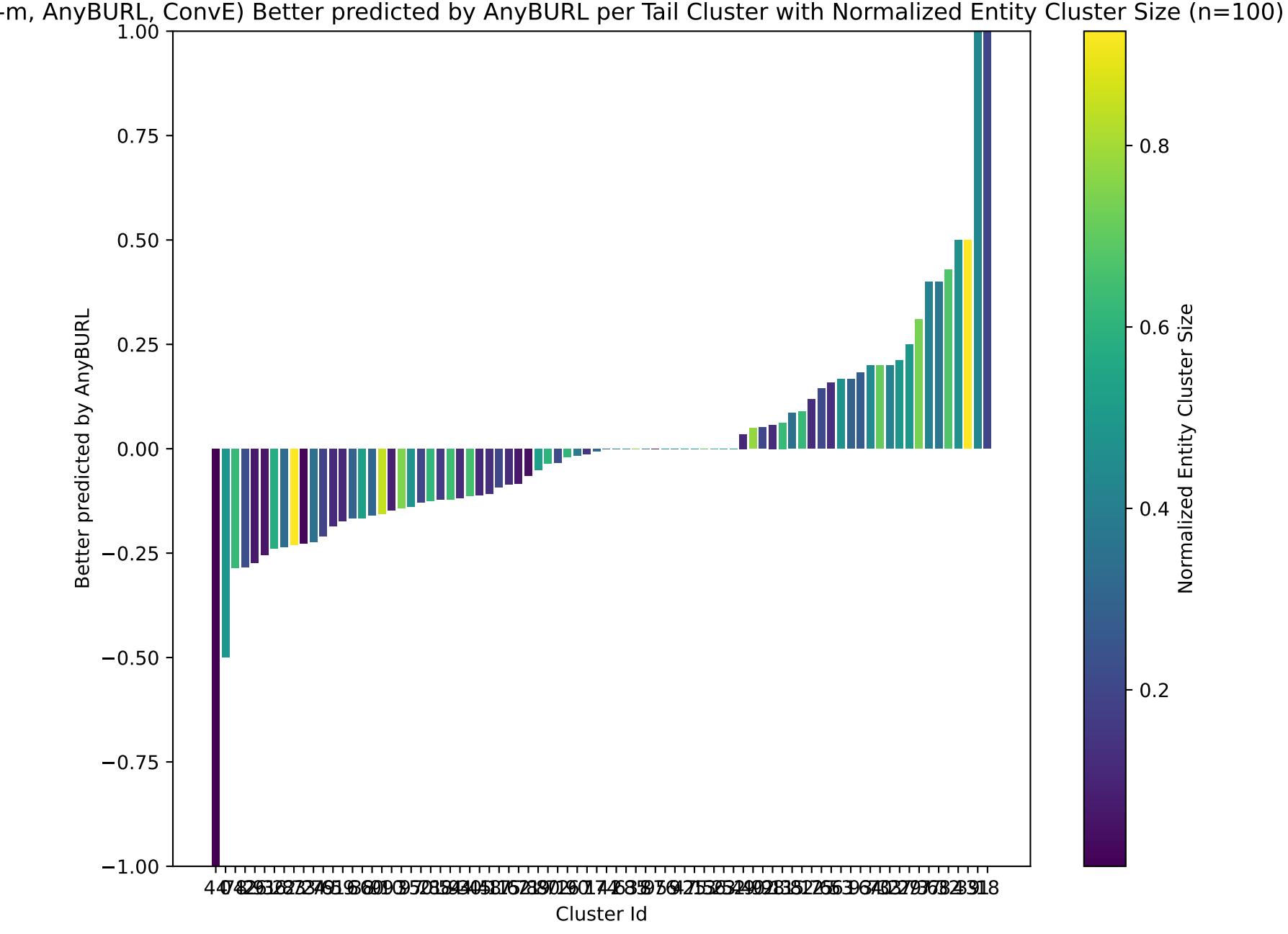

m, AnyBURL, ConvE) Better predicted by AnyBURL per Head Cluster with Normalized Entity Cluster Size (n=25)
Better predicted by AnyBURL
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
2 5 24 7 1 14 8 15 17 11 16 3 9 22 4 10 13 19 6 0 20 18
Cluster Id
Normalized Entity Cluster Size
1.0
0.8
0.6
0.4
0.2

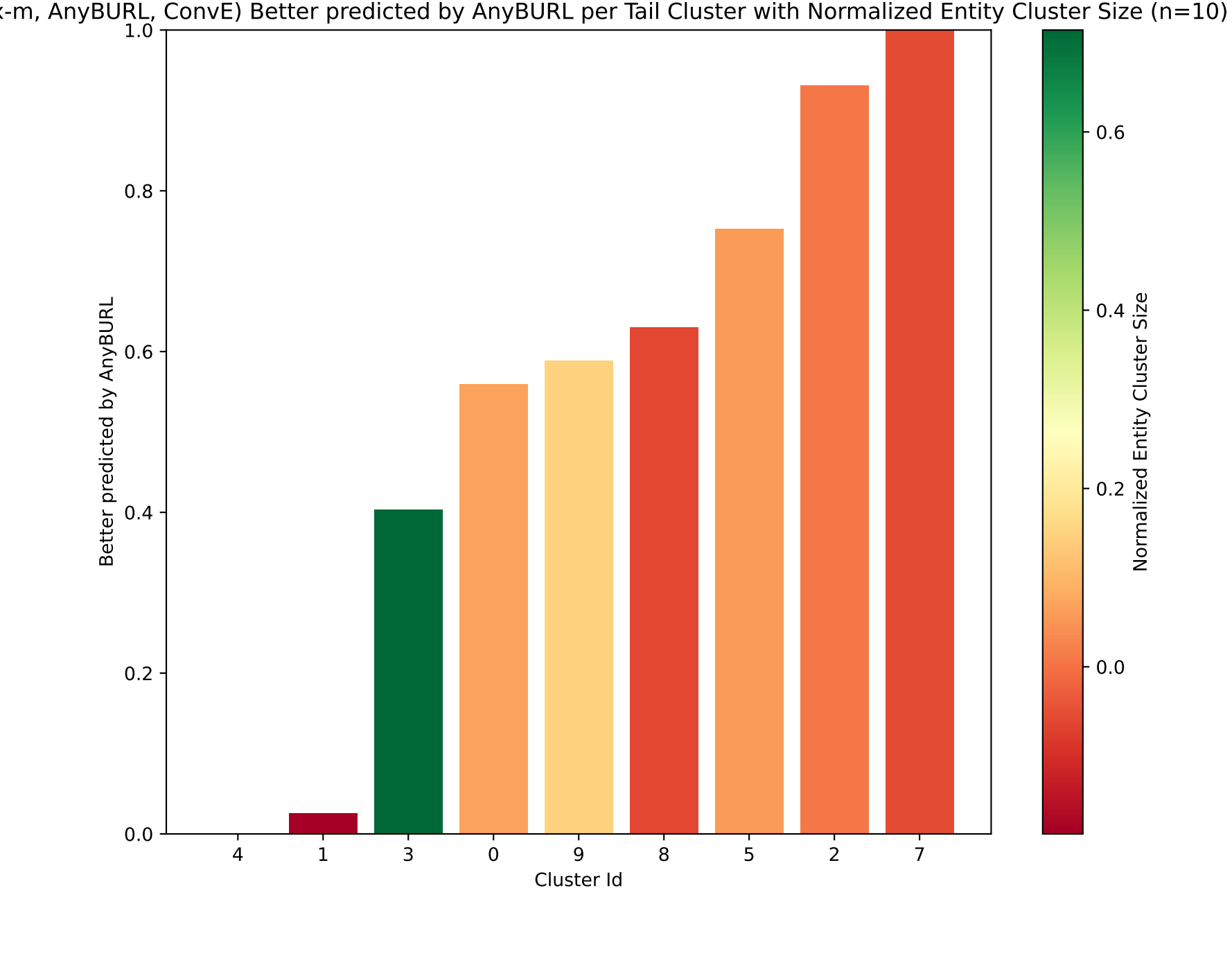

m, AnyBURL, ConvE) Better predicted by AnyBURL per Head Cluster with Normalized Entity Cluster Size (n=100)
Better predicted by AnyBURL
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
Cluster Id
Normalized Entity Cluster Size
1.0
0.8
0.6
0.4
0.2
0.0


m, AnyBURL, ConvE) Better predicted by AnyBURL per Head Cluster with Normalized Entity Cluster Size (n=10)
Better predicted by AnyBURL
1.0
0.8
0.6
0.4
0.2
0.0
4
6
3
0
9
8
5
2
7
Cluster Id
Normalized Entity Cluster Size
0.15
0.10
0.05
0.00
−0.05
−0.10


x-m, AnyBURL, ConvE) Better predicted by AnyBURL per Tail Cluster with Normalized Entity Cluster Size (n=10)
Better predicted by AnyBURL
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
1
8
7
2
4
5
0
9
3
Cluster Id
Normalized Entity Cluster Size
1.0
0.8
0.6
0.4
0.2
0.0


x-m, AnyBURL, ConvE) Better predicted by AnyBURL per Tail Cluster with Normalized Entity Cluster Size (n=25)
Better predicted by AnyBURL
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
12 18 22 23 17 11 10 7 24 2 4 19 20 9 21 13 0 15 1 14 8 5 16 3
Cluster Id
Normalized Entity Cluster Size
1.0
0.8
0.6
0.4
0.2
0.0


-m, AnyBURL, ConvE) Better predicted by AnyBURL per Tail Cluster with Normalized Entity Cluster Size (n=100)
Better predicted by AnyBURL
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75
−1.00
Cluster Id
Normalized Entity Cluster Size
0.8
0.6
0.4
0.2


x-m, AnyBURL, ConvE) Better predicted by AnyBURL per Tail Cluster with Normalized Entity Cluster Size (n=10)
Better predicted by AnyBURL
1.0
0.8
0.6
0.4
0.2
0.0
4
1
3
0
9
8
5
2
7
Cluster Id
Normalized Entity Cluster Size
0.6
0.4
0.2
0.0