# cora

trainable attention hidden+trainable attention out

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| **epochs** | **lr** | **dropout** | **hidden** | **train\_acc** | **test\_acc** |
| 200 | 0.01 | 0.6 | 8 | 8809 | 8817 |
| 300 | 0.01 | 0.6 | 8 | 8707 | 8799 |
| 500 | 0.01 | 0.6 | 8 | 7416 | 8854 |
| 500 | 0.01 | 0.6 | 8 | 7128 | 8780 |
| 1000(565) | 0.01 | 0.6 | 8 | 7330 | 8854 |
| 1000 | 0.001 | 0.6 | 8 | 7457 | 8891 |
| 2000 | 0.001 | 0.6 | 8 | 7768 | 8854 |
| 1000 | 0.001 | 0.3 | 8 | 8633 | 8762 |
| 2000 | 0.001 | 0.3 | 8 | 8870 | 8706 |

entropy attention hidden+trainable attention out

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| **epochs** | **lr** | **dropout** | **hidden** | **train\_acc** | **test\_acc** |
| 200 | 0.01 | 0.6 | 8 | 5709 | 7172 |
| 300 | 0.01 | 0.6 | 8 | 5836 | 7209 |
| 500 | 0.01 | 0.6 | 8 | 8738 | 7301 |
| 500 | 0.01 | 0.8 | 8 | 3241 | 6285 |
| 500 | 0.01 | 0.7 | 8 | 4614 | 7116 |
| 500 | 0.01 | 0.5 | 8 | 6465 | 7209 |
| 500 | 0.01 | 0.4 | 8 | 7215 | 7320 |
| 500 | 0.01 | 0.3 | 8 | 7238 | 7264 |
| 500 | 0.01 | 0.2 | 8 | 7589 | 7246 |
| 500 | 0.01 | 0.1 | 8 | 7843 | 7227 |
| 500 | 0.01 | 0 | 8 | 8299 | 7153 |

one gnn

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| **epochs** | **lr** | **dropout** | **hidden** | **train\_acc** | **test\_acc** |
| 300 | 0.01 | 0.6 | 0 | 8005 | 8262 |
| 500 | 0.01 | 0.6 | 0 | 7918 | 8244 |
| 300 | 0.01 | 0.7 | 0 | 7809 | 8244 |
| 300 | 0.01 | 0.8 | 0 | 7318 | 8207 |
| 300 | 0.01 | 0.9 | 0 | 6205 | 8189 |
| 300 | 0.01 | 0.5 | 0 | 8304 | 8207 |
| 300 | 0.01 | 0.4 | 0 | 8391 | 8207 |
| 300 | 0.01 | 0.3 | 0 | 8466 | 8207 |
| 300 | 0.01 | 0.2 | 0 | 8547 | 8189 |

entropy attention hidden+cov out

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| **epochs** | **lr** | **dropout** | **hidden** | **train\_acc** | **test\_acc** |
| 300 | 0.01 | 0.6 | 8 | 5606 | 5841 |
| 500 | 0.01 | 0.6 | 8 | 5623 | 5989 |
| 700(558) | 0.01 | 0.6 | 8 | 5721 | 5712 |
| 1000 | 0.001 | 0.6 | 8 | 5236 | 5009 |
| 2000 | 0.01 | 0.6 | 8 | 5519 | 5564 |
| 500 | 0.01 | 0.5 | 8 | 6084 | 6192 |
| 500 | 0.01 | 0.4 | 8 | 6326 | 6174 |
| 500 | 0.01 | 0.3 | 8 | 6528 | 6211 |
| 500 | 0.01 | 0.2 | 8 | 6615 | 6229 |
| 500 | 0.01 | 0.1 | 8 | 6892 | 6322 |
| 500 | 0.01 | 0 | 8 | 6938 | 6303 |

trainbale attention+cov out

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| **epochs** | **lr** | **dropout** | **hidden** | **train\_acc** | **test\_acc** |
| 300 | 0.01 | 0.6 | 8 | 8454 | 8780 |
| 400 | 0.01 | 0.6 | 8 | 8541 | 8706 |
| 500(468) | 0.01 | 0.6 | 8 | 8414 | 8725 |
| 500 | 0.01 | 0.8 | 8 | 5790 | 8614 |
| 500 | 0.01 | 0.7 | 8 | 7705 | 8706 |
| 500 | 0.01 | 0.5 | 8 | 8968 | 8706 |
| 500 | 0.01 | 0.4 | 8 | 9077 | 8706 |
| 500 | 0.01 | 0.3 | 8 | 9250 | 8706 |
| 500 | 0.01 | 0.2 | 8 | 9366 | 8669 |

one entropy attention

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| **epochs** | **lr** | **dropout** | **hidden** | **train\_acc** | **test\_acc** |
| 300 | 0.01 | 0.6 | 0 | 5185 | 4898 |
| 400 | 0.01 | 0.6 | 0 | 5035 | 4917 |
| 500 | 0.01 | 0.6 | 0 | 5115 | 5028 |
| 700 | 0.01 | 0.6 | 0 | 5260 | 5065 |
| 1000 | 0.01 | 0.6 | 0 | 5150 | 5083 |
| 1000 | 0.01 | 0.7 | 0 | 4856 | 5046 |
| 1000 | 0.01 | 0.5 | 0 | 5288 | 5046 |
| 1000 | 0.01 | 0.4 | 0 | 5409 | 5065 |
| 2000(1375) | 0.01 | 0.4 | 0 | 5329 | 5065 |
| 1000 | 0.01 | 0.3 | 0 | 5352 | 5065 |
| 2000(1277) | 0.01 | 0.3 | 0 | 5456 | 5102 |
| 1300 | 0.01 | 0.2 | 0 | 5496 | 5102 |

one random adj

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| **epochs** | **lr** | **dropout** | **hidden** | **badcount** | **train\_acc** | **test\_acc** |
| 400 | 0.01 | 0.6 | 8 | 54 | 4348 | 2828 |
| 500 | 0.01 | 0.6 | 8 | 66 | 4268 | 2810 |
| 500 | 0.01 | 0.7 | 8 | 21 | 4123 | 2884 |

one entropy attention+1 adj

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| **epochs** | **lr** | **dropout** | **hidden** | **badcount** | **train\_acc** | **test\_acc** |
| 400 | 0.01 | 0.6 | 0 | 0 | 5047 | 4991 |
| 500 | 0.01 | 0.6 | 0 | 0 | 5144 | 5065 |
| 700 | 0.01 | 0.6 | 0 | 0 | 5306 | 5102 |
| 1000 | 0.01 | 0.6 | 0 | 94 | 5288 | 5102 |
| 1000(763) | 0.01 | 0.7 | 0 | 100 | 4913 | 5102 |
| 700 | 0.01 | 0.5 | 0 | 14 | 5369 | 5139 |
| 700 | 0.01 | 0.4 | 0 | 0 | 5375 | 5157 |
| 900 | 0.01 | 0.4 | 0 | 1 | 5565 | 5139 |
| 1000 | 0.01 | 0.3 | 0 | 0 | 5473 | 5213 |
| 1200 | 0.01 | 0.3 | 0 | 23 | 5554 | 5194 |
| 1500 | 0.01 | 0.2 | 0 | 0 | 5531 | 5157 |
| 1700 | 0.01 | 0.2 | 0 | 49 | 5623 | 5157 |

trainable single attention(add adj) initialiszed with entropy

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| **epochs** | **lr** | **dropout** | **hidden** | **badcount** | **train\_acc** | **test\_acc** |
| 500(450) | 0.01 | 0.6 | 0 | 100 | 4141 | 5139 |
| 400 | 0.01 | 0.6 | 0 | 50 | 4377 | 5139 |
| 400 | 0.01 | 0.5 | 0 | 50 | 4481 | 5009 |
| 400 | 0.01 | 0.4 | 0 | 49 | 4706 | 4991 |

trainable 8 attention initialized with entroyps+trainable cov outlayer

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| **epochs** | **lr** | **dropout** | **hidden** | **badcount** | **train\_acc** | **test\_acc** |
| 500(280) | 0.01 | 0.6 | 8 | 100 | 4041 | 4418 |
| 200 | 0.01 | 0.6 | 8 |  |  |  |
| 400 | 0.01 | 0.5 | 8 |  |  |  |
| 400 | 0.01 | 0.4 | 8 |  |  |  |

countMotifs：[1071, 549, 1630, 320, 380, 1489, 220, 249]

entropy：[5291.57282775566, 5930.17339392563, 35919.4807569822, 3996.33297329960, 5985.41022812210, 45880.6612182431, 2563.09578325316, 3762.89089310395]

使用motif-entropy与count motif构成的矩阵

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| **epochs** | **lr** | **dropout** | **hidden** | **badcount** | **train\_acc** | **test\_acc** |
| 300 | 0.01 | 0.6 | 8 | 20 | 6897 | 8614 |
| 400 | 0.01 | 0.6 | 8 | 100 | 6943 | 8503 |
| 300 | 0.01 | 0.5 | 8 |  |  |  |
|  | 0.01 | 0.4 | 8 |  |  |  |

8 entropy attention (add adj)+cov out

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| **epochs** | **lr** | **dropout** | **hidden** | **badcount** | **train\_acc** | **test\_acc** |
| 300 | 0.01 | 0.6 | 8 | 3 | 5859 | 6174 |
| 400 | 0.01 | 0.1 | 8 | 8 | 6984 | 6377 |
| 300 | 0.01 | 0.5 | 8 |  |  |  |
|  | 0.01 | 0.4 | 8 |  |  |  |