

# 1 PERFORMANCE

## 1.1 Precision-Score vs. #Data

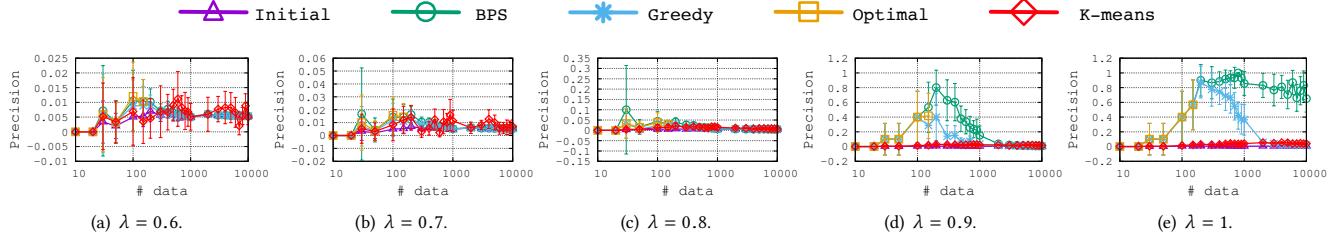


Figure 1: Performance on the Enron dataset (noisy scoring function with 0.5% of malicious data).

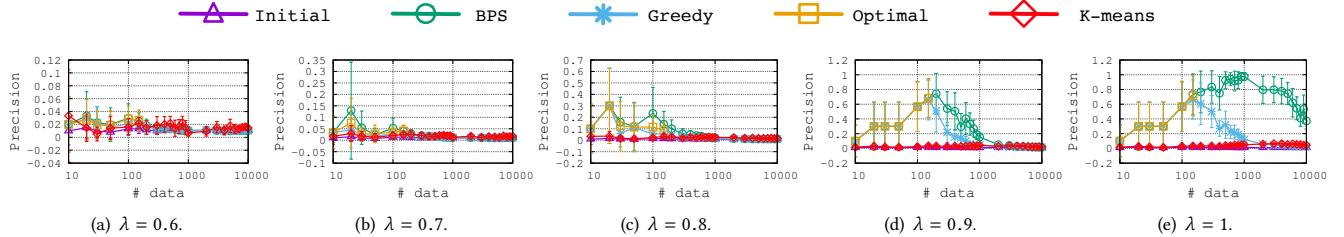


Figure 2: Performance on the Enron dataset (noisy scoring function with 1% of malicious data).

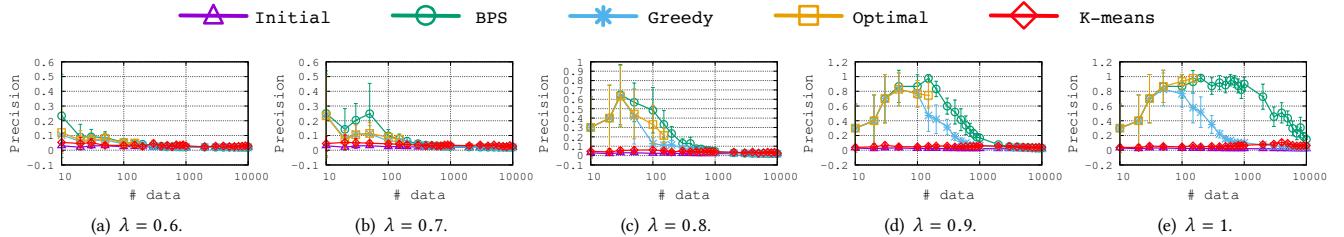


Figure 3: Performance on the Enron dataset (noisy scoring function with 2% of malicious data).

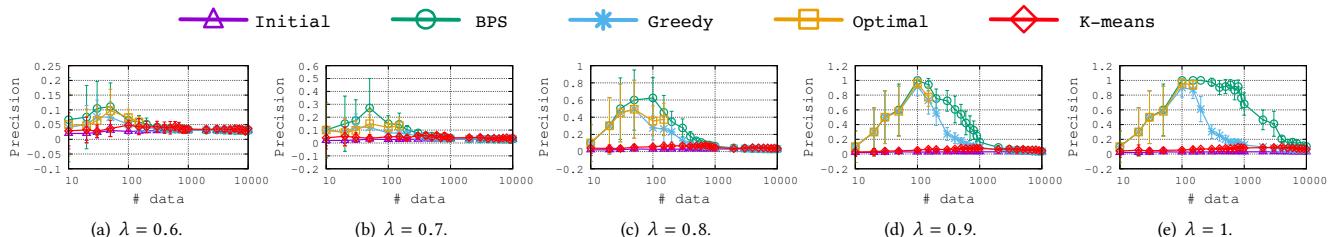


Figure 4: Performance on the Enron dataset (noisy scoring function with 3% of malicious data).

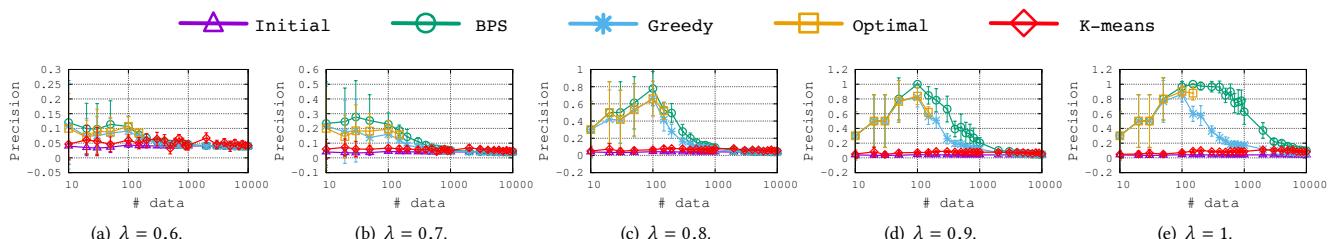
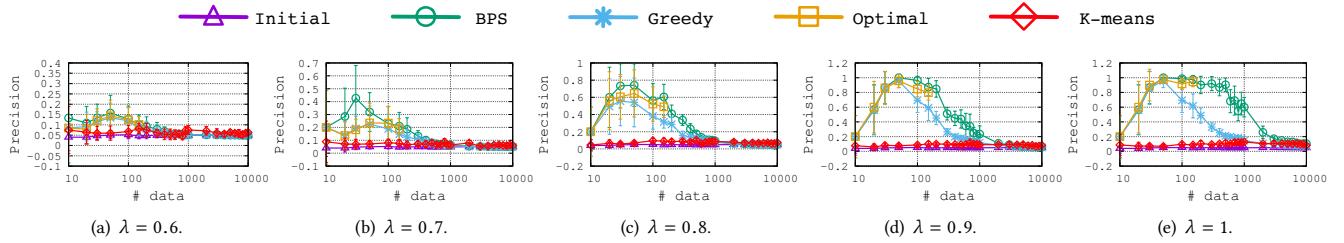
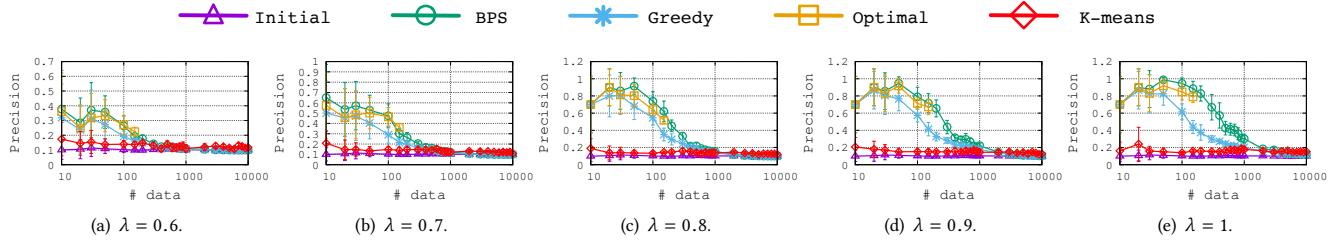


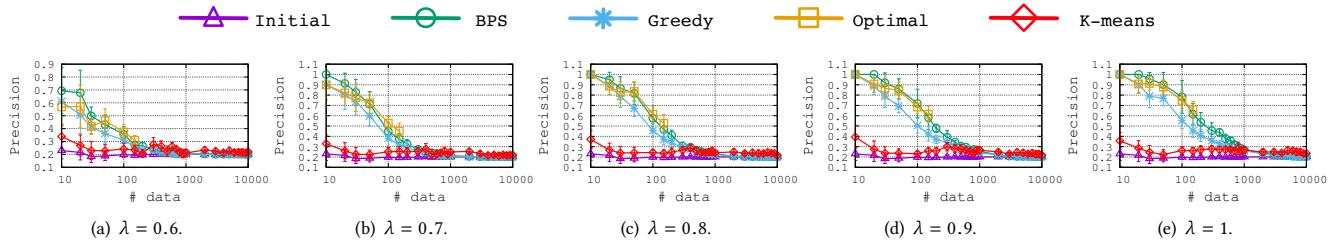
Figure 5: Performance on the Enron dataset (noisy scoring function with 4% of malicious data).



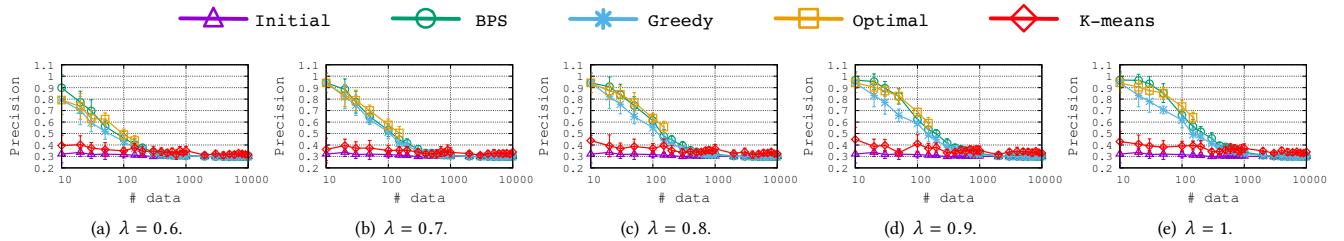
**Figure 6: Performance on the Enron dataset (noisy scoring function with 5% of malicious data).**



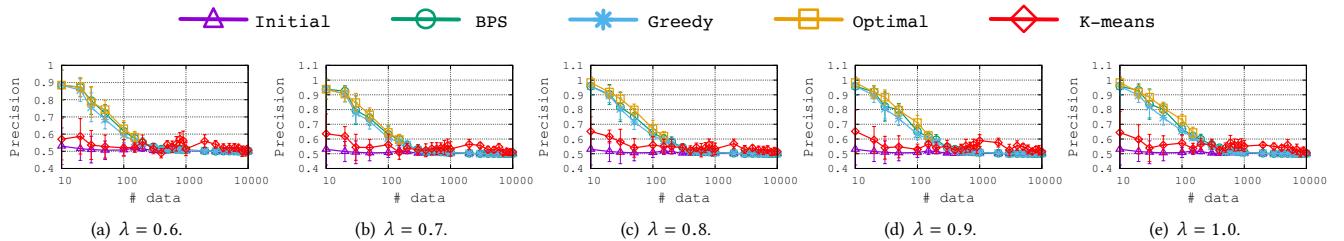
**Figure 7: Performance on the Enron dataset (noisy scoring function with 10% of malicious data).**



**Figure 8: Performance on the Enron dataset (noisy scoring function with 20% of malicious data).**



**Figure 9: Performance on the Enron dataset (noisy scoring function with 30% of malicious data).**



**Figure 10: Performance on the Enron dataset (noisy scoring function with 50% of malicious data).**

## 1.2 Precision-Score vs. $\lambda$

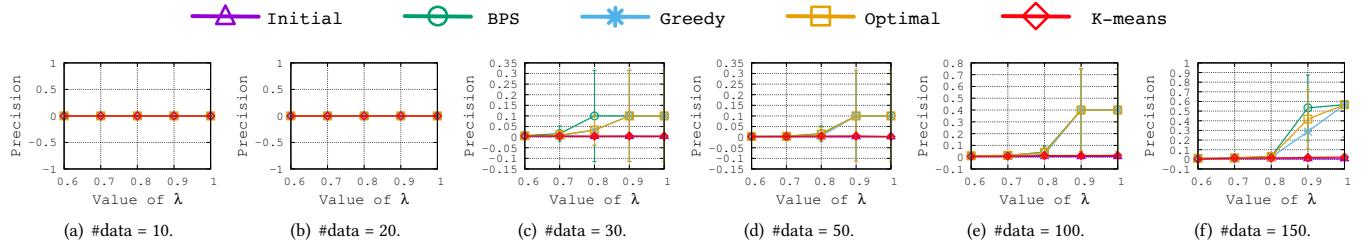


Figure 11: Performance on the Enron dataset (noisy scoring function with 0.5% of malicious data).

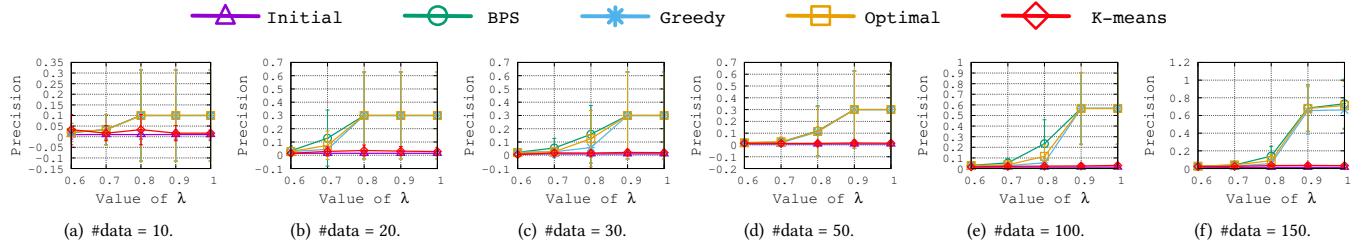


Figure 12: Performance on the Enron dataset (noisy scoring function with 1.0% of malicious data).

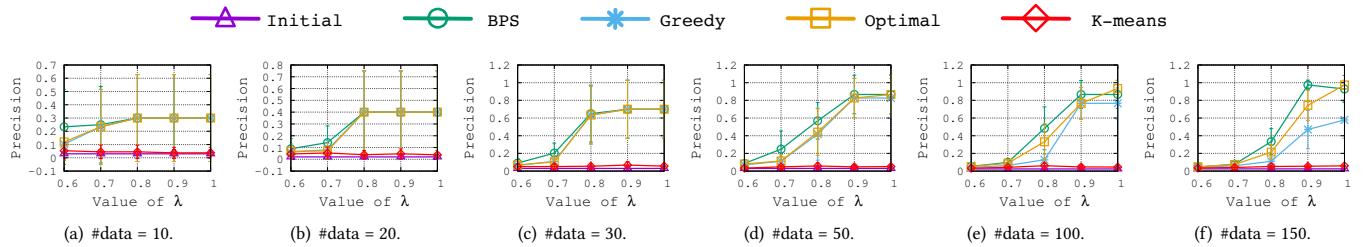


Figure 13: Performance on the Enron dataset (noisy scoring function with 2.0% of malicious data).

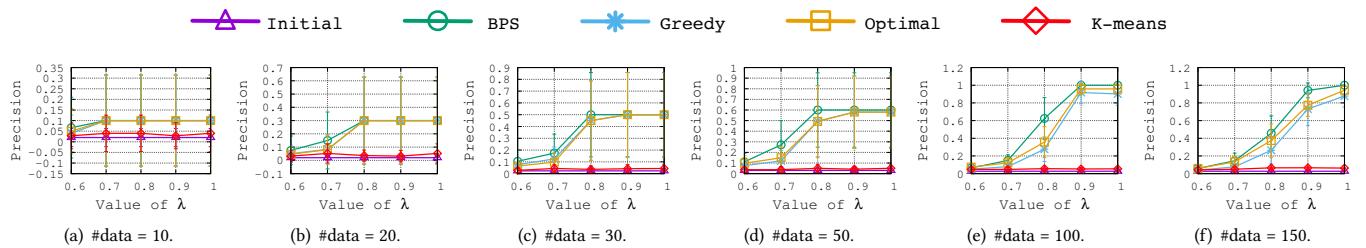


Figure 14: Performance on the Enron dataset (noisy scoring function with 3.0% of malicious data).

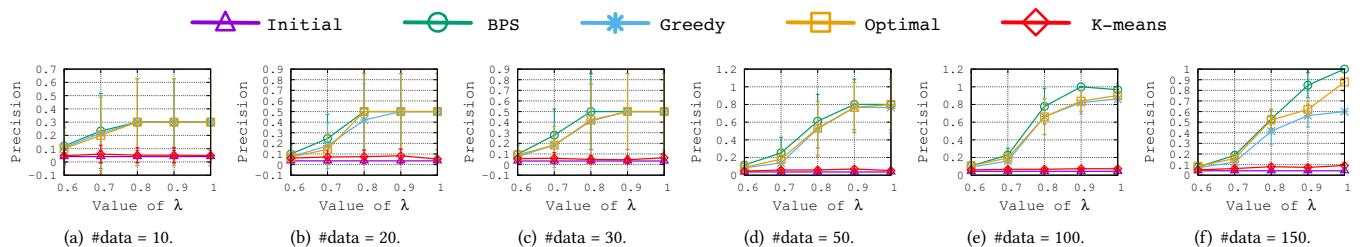
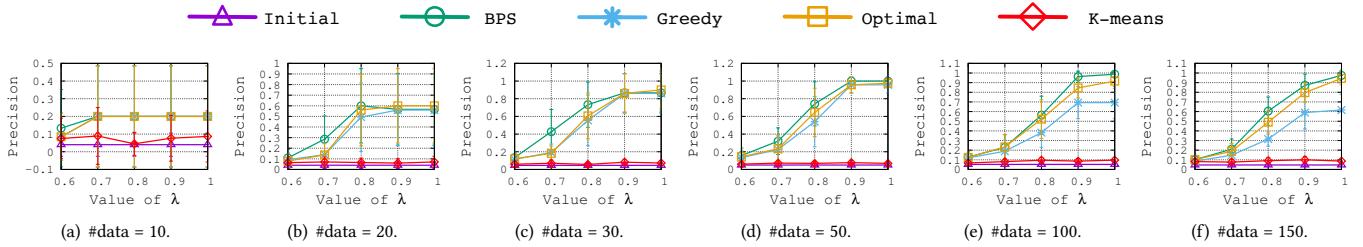
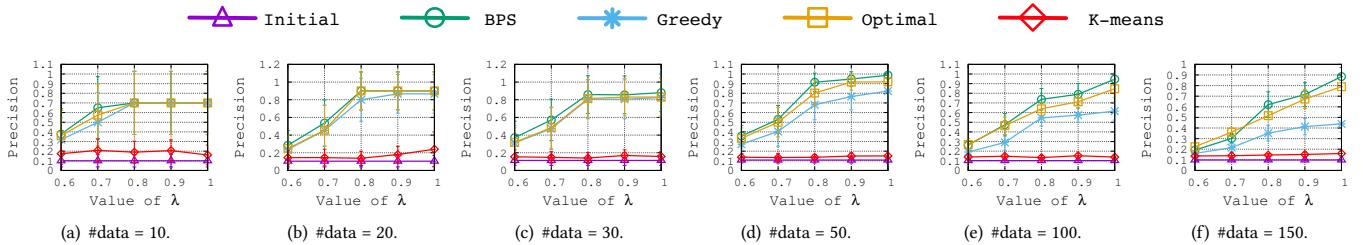


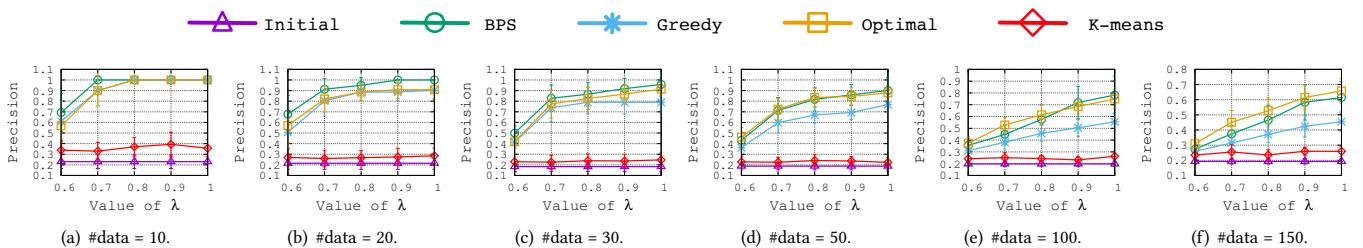
Figure 15: Performance on the Enron dataset (noisy scoring function with 4.0% of malicious data).



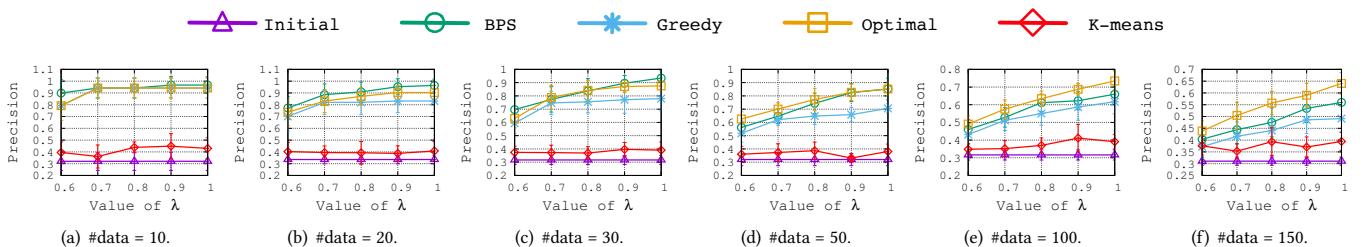
**Figure 16: Performance on the Enron dataset (noisy scoring function with 5.0% of malicious data).**



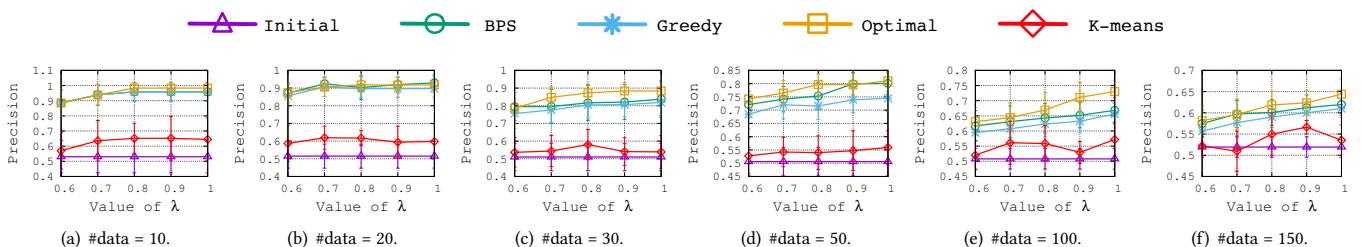
**Figure 17: Performance on the Enron dataset (noisy scoring function with 10.0% of malicious data).**



**Figure 18: Performance on the Enron dataset (noisy scoring function with 20.0% of malicious data).**



**Figure 19: Performance on the Enron dataset (noisy scoring function with 30.0% of malicious data).**



**Figure 20: Performance on the Enron dataset (noisy scoring function with 50.0% of malicious data).**

### 1.3 Precision-Score vs. Rate of positive data

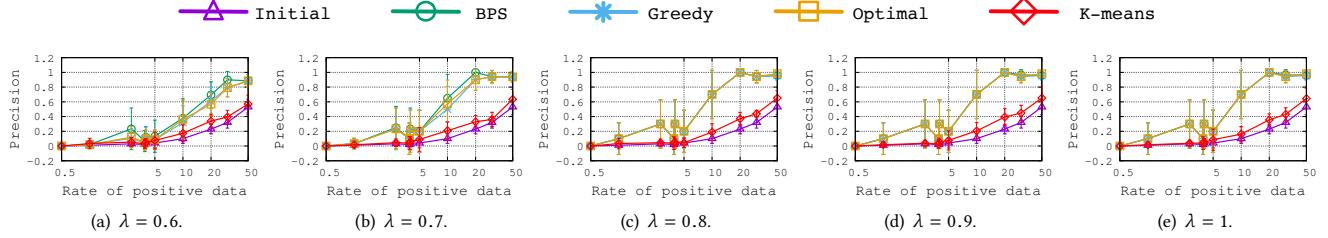


Figure 21: Performance on the Enron dataset (noisy scoring function with #data= 10).

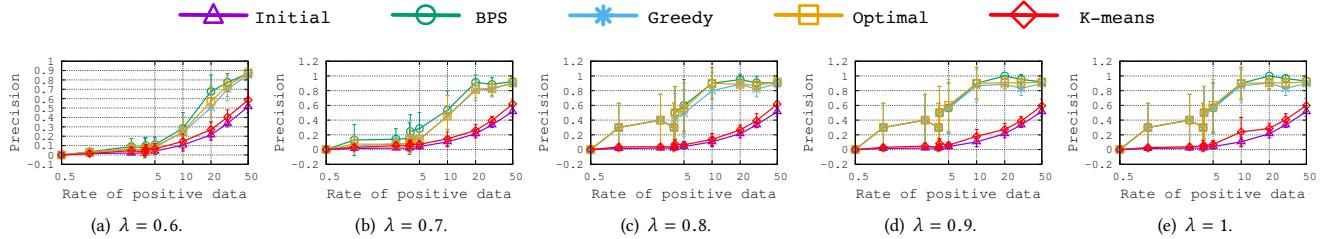


Figure 22: Performance on the Enron dataset (noisy scoring function with #data= 20).

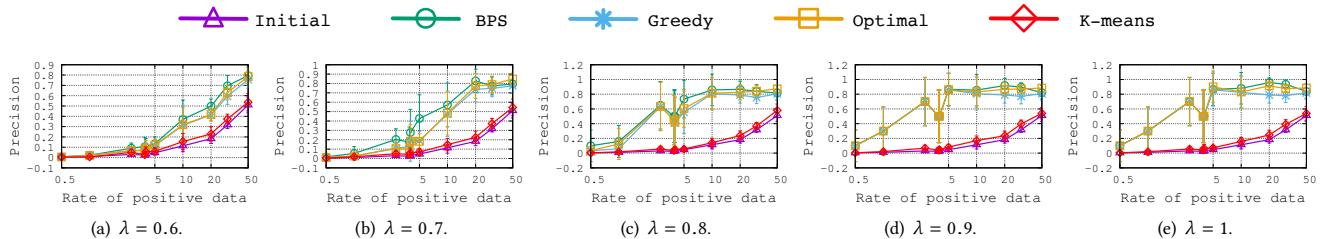


Figure 23: Performance on the Enron dataset (noisy scoring function with #data= 30).

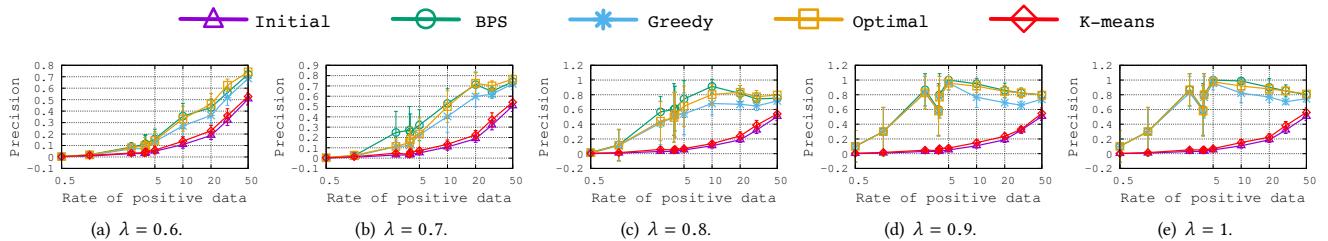


Figure 24: Performance on the Enron dataset (noisy scoring function with #data= 50).

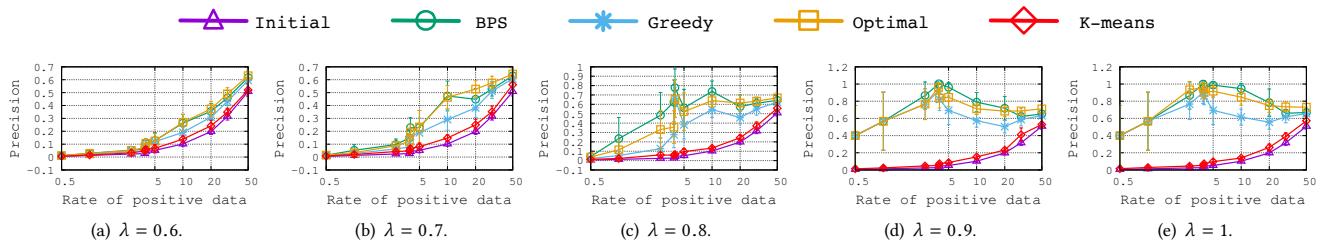
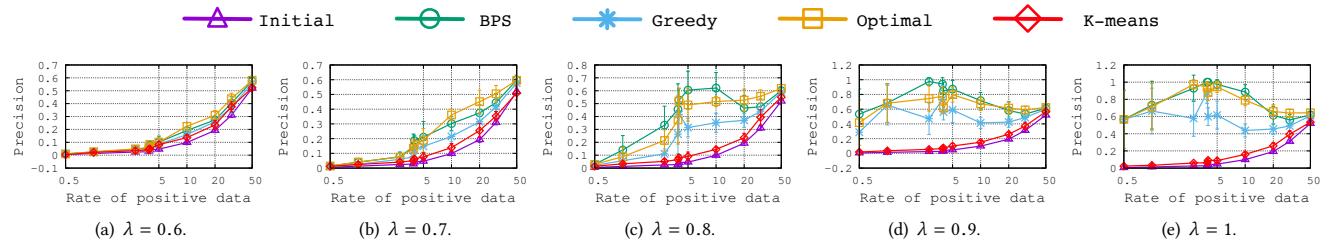


Figure 25: Performance on the Enron dataset (noisy scoring function with #data= 100).



**Figure 26: Performance on the Enron dataset (noisy scoring function with  $\#data= 150$ ) .**

#### 1.4 Recall-Score vs. #Data

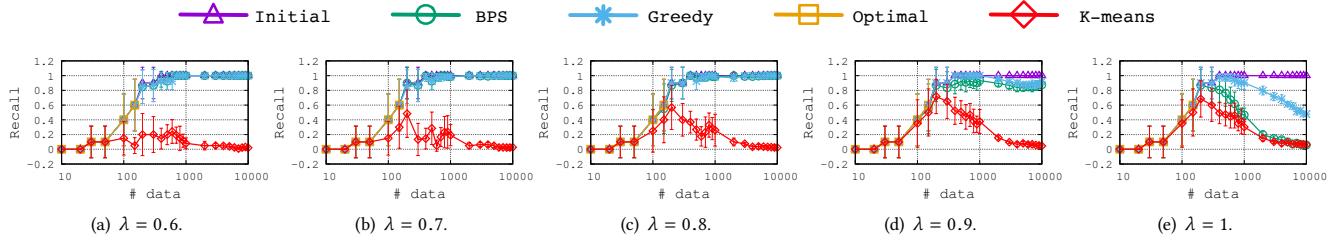


Figure 27: Performance on the Enron dataset (noisy scoring function with 0.5% of malicious data).

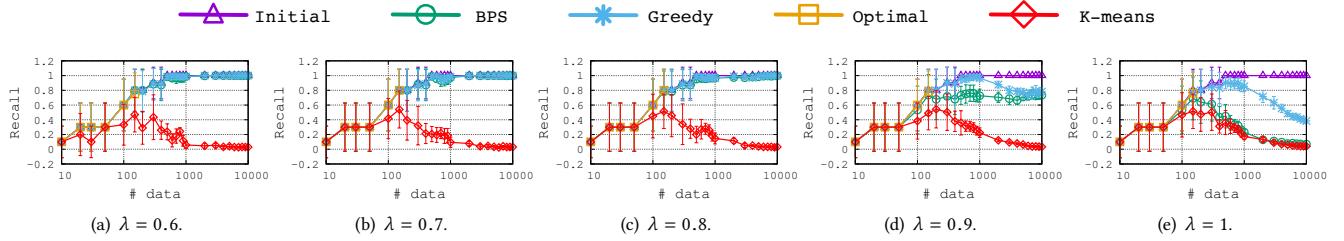


Figure 28: Performance on the Enron dataset (noisy scoring function with 1% of malicious data).

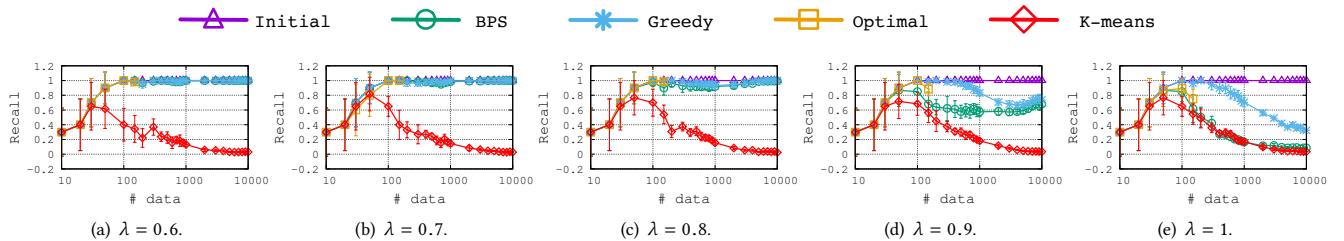


Figure 29: Performance on the Enron dataset (noisy scoring function with 2% of malicious data).

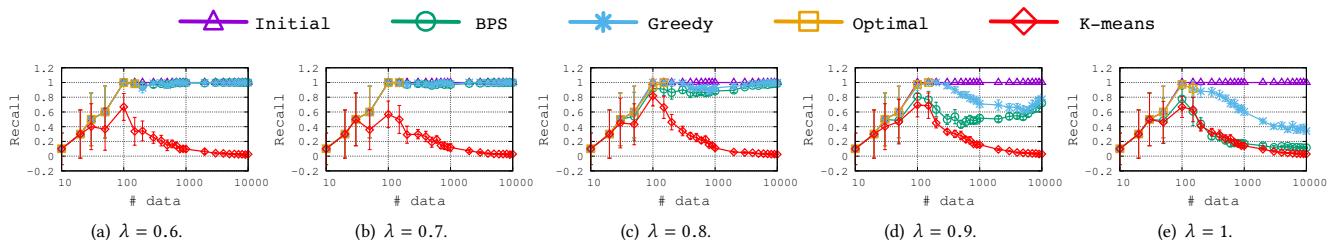


Figure 30: Performance on the Enron dataset (noisy scoring function with 3% of malicious data).

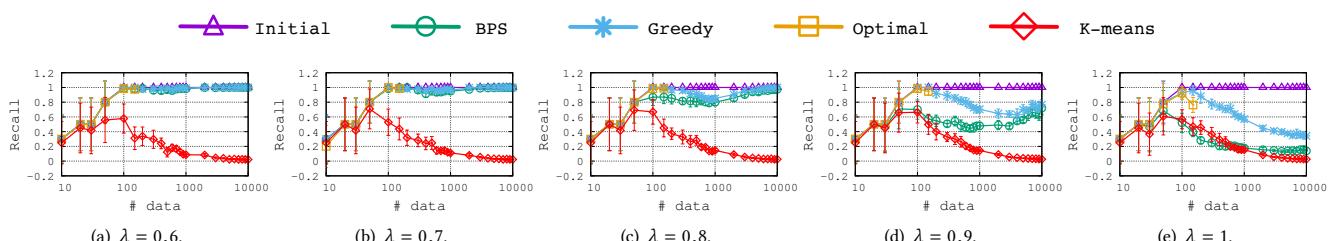


Figure 31: Performance on the Enron dataset (noisy scoring function with 4% of malicious data).

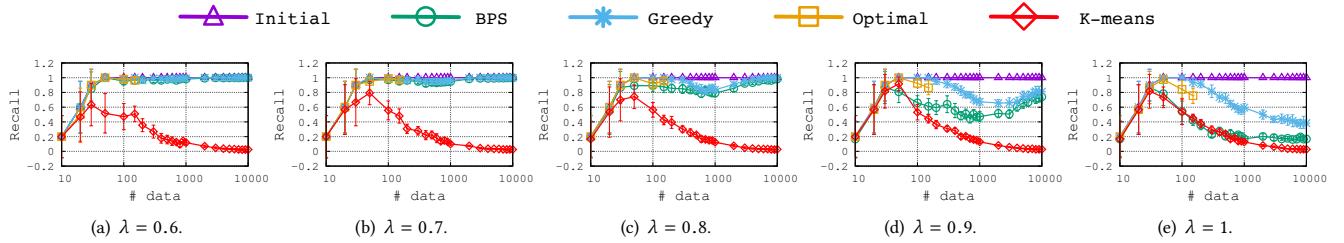


Figure 32: Performance on the Enron dataset (noisy scoring function with 5% of malicious data).

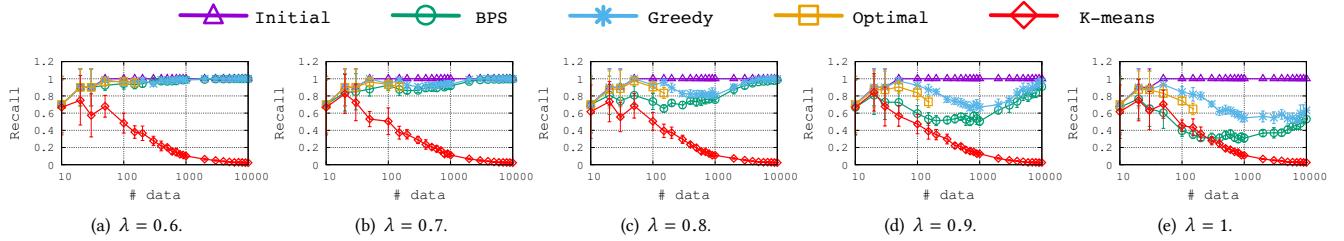


Figure 33: Performance on the Enron dataset (noisy scoring function with 10% of malicious data).

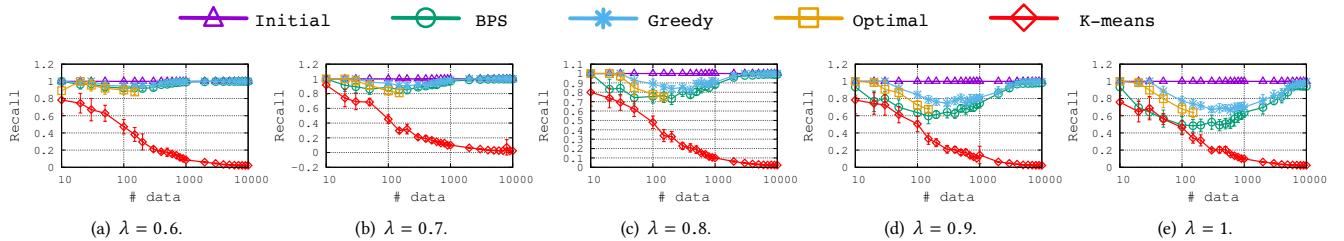


Figure 34: Performance on the Enron dataset (noisy scoring function with 20% of malicious data).

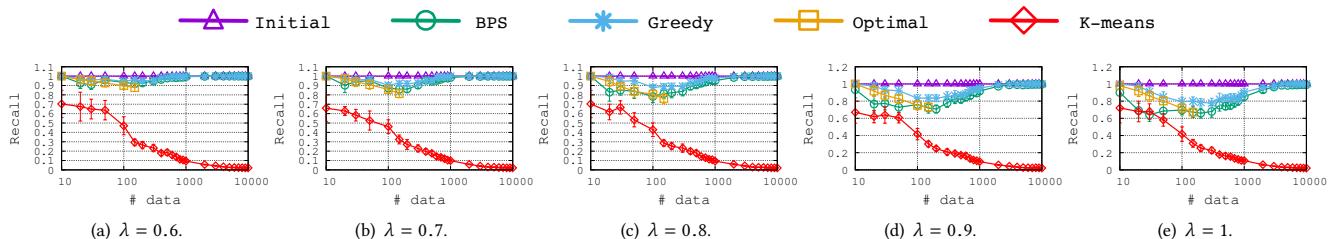


Figure 35: Performance on the Enron dataset (noisy scoring function with 30% of malicious data).

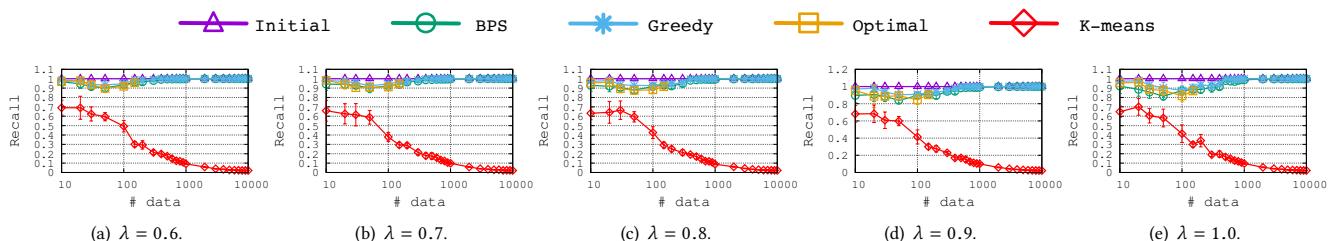


Figure 36: Performance on the Enron dataset (noisy scoring function with 50% of malicious data).

## 1.5 Recall-Score vs. $\lambda$

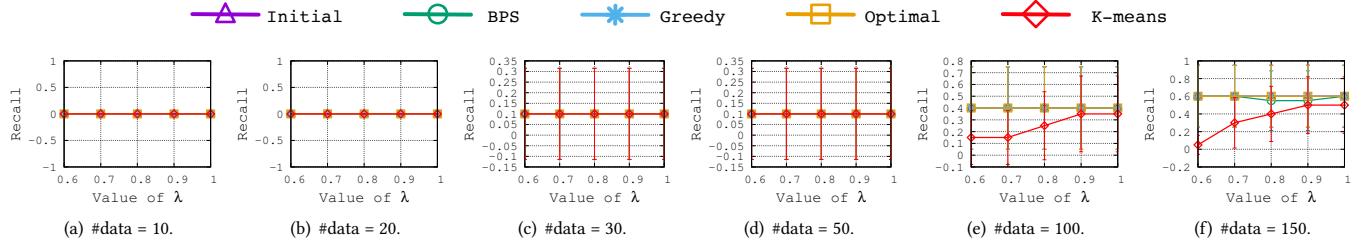


Figure 37: Performance on the Enron dataset (noisy scoring function with 0.5% of malicious data).

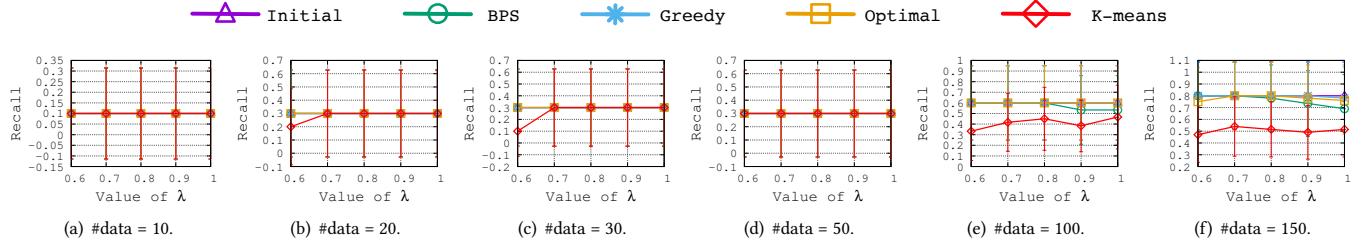


Figure 38: Performance on the Enron dataset (noisy scoring function with 1.0% of malicious data).

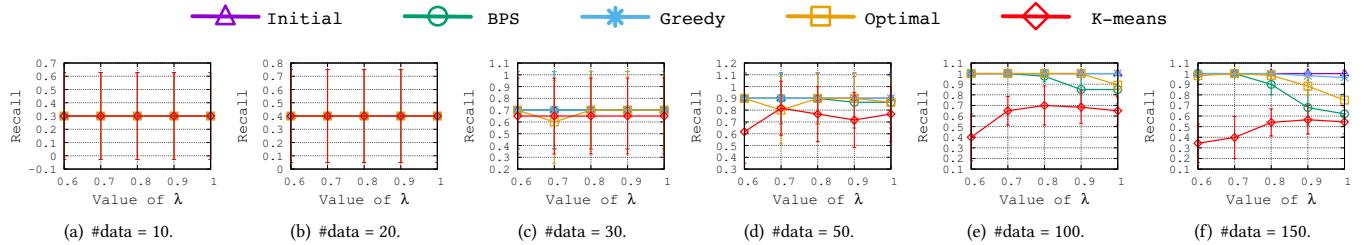


Figure 39: Performance on the Enron dataset (noisy scoring function with 2.0% of malicious data).

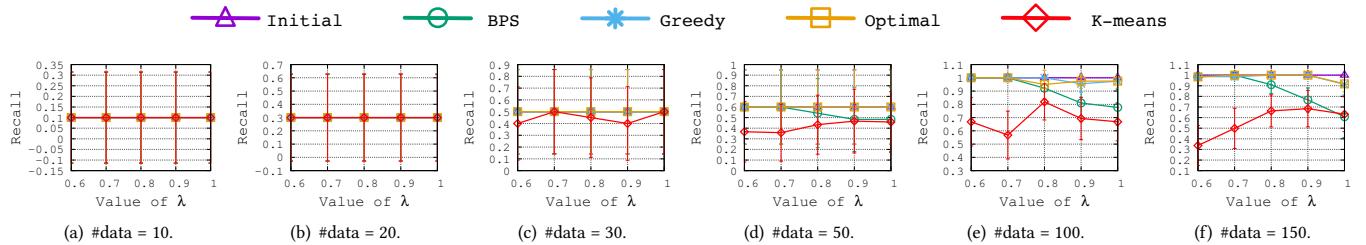


Figure 40: Performance on the Enron dataset (noisy scoring function with 3.0% of malicious data).

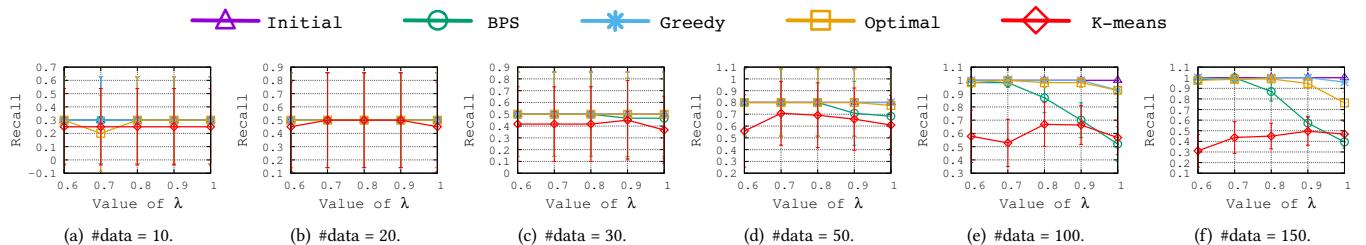


Figure 41: Performance on the Enron dataset (noisy scoring function with 4.0% of malicious data).

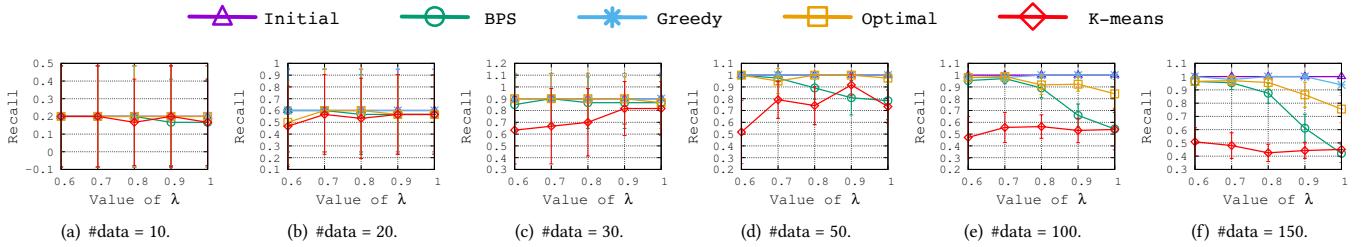


Figure 42: Performance on the Enron dataset (noisy scoring function with 5.0% of malicious data).

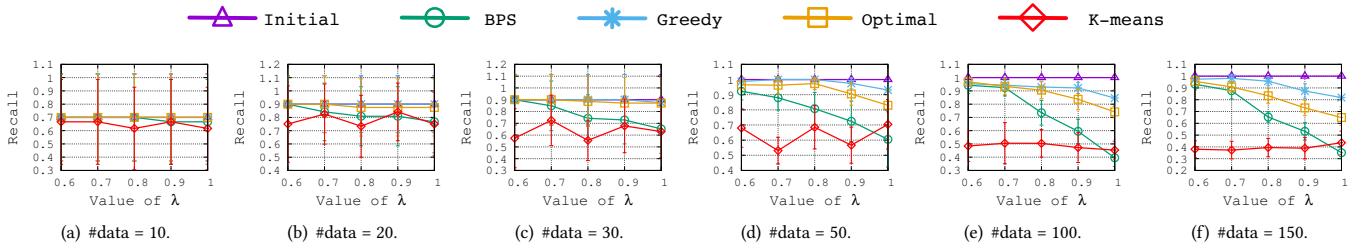


Figure 43: Performance on the Enron dataset (noisy scoring function with 10.0% of malicious data).

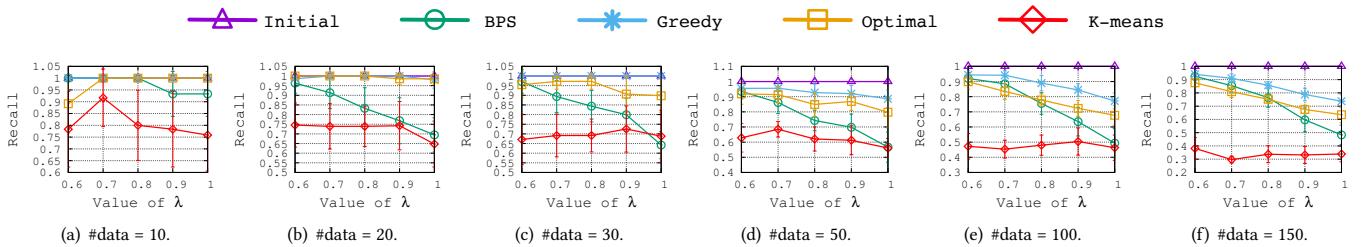


Figure 44: Performance on the Enron dataset (noisy scoring function with 20.0% of malicious data).

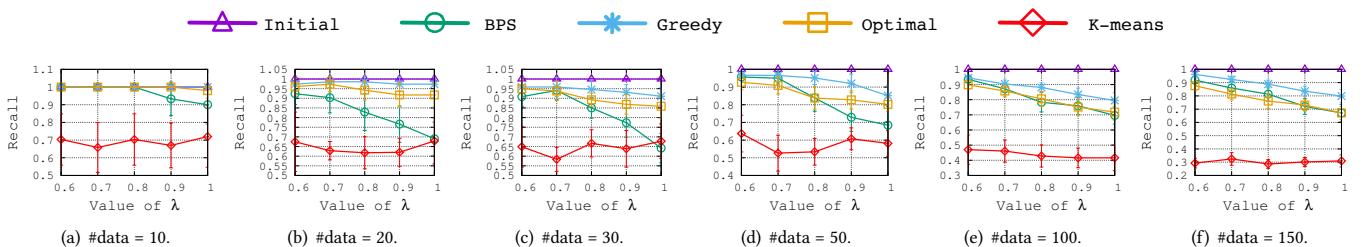


Figure 45: Performance on the Enron dataset (noisy scoring function with 30.0% of malicious data).

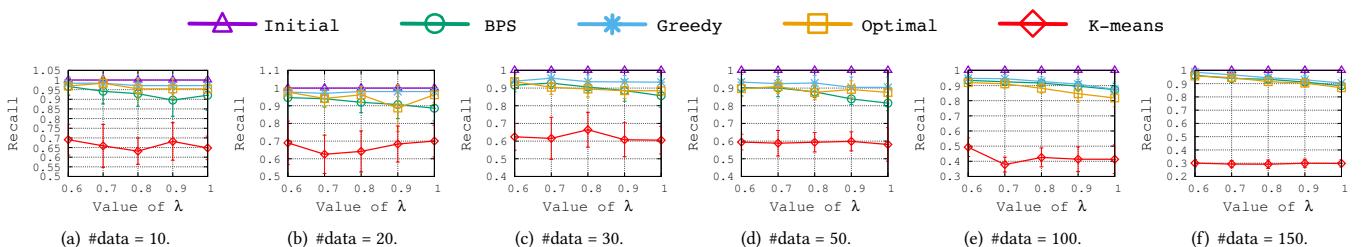


Figure 46: Performance on the Enron dataset (noisy scoring function with 50.0% of malicious data).

## 1.6 Recall-Score vs. Rate of positive data

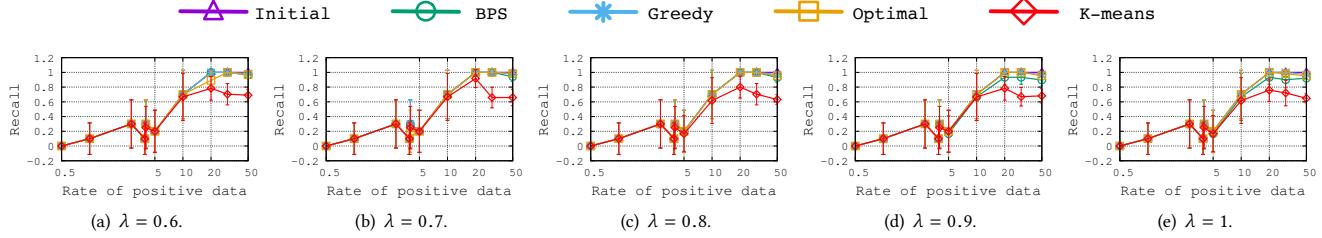


Figure 47: Performance on the Enron dataset (noisy scoring function with  $\#data = 10$ ).

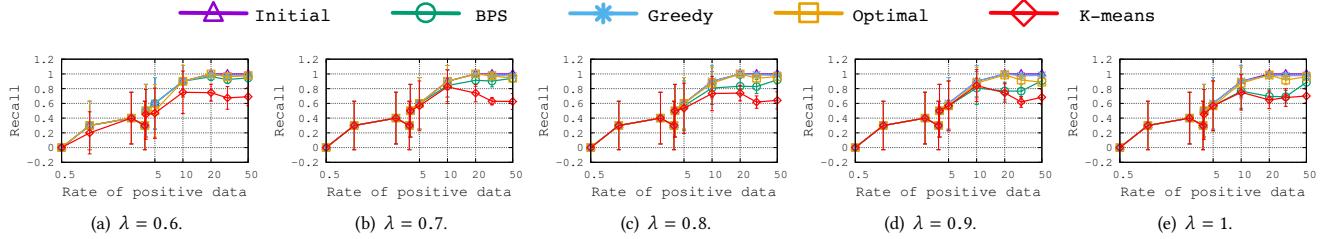


Figure 48: Performance on the Enron dataset (noisy scoring function with  $\#data = 20$ ).

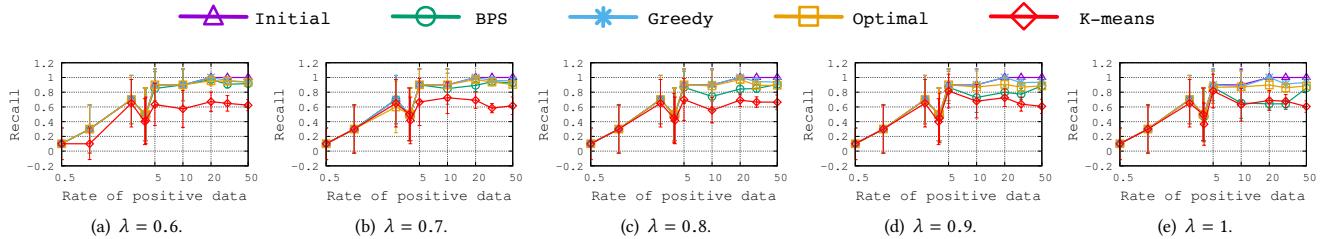


Figure 49: Performance on the Enron dataset (noisy scoring function with  $\#data = 30$ ).

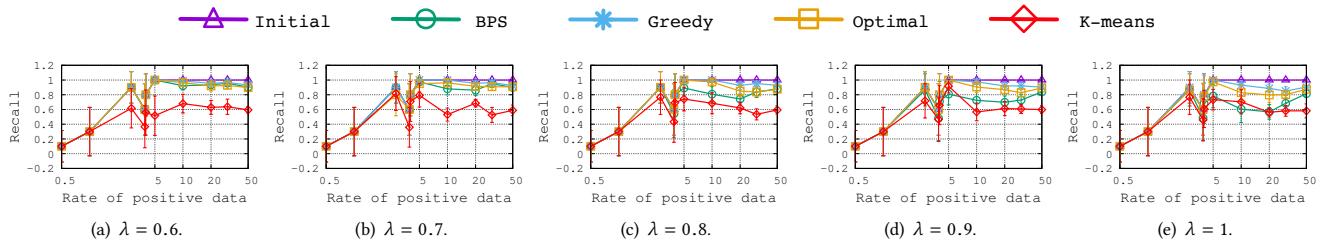


Figure 50: Performance on the Enron dataset (noisy scoring function with  $\#data = 50$ ).

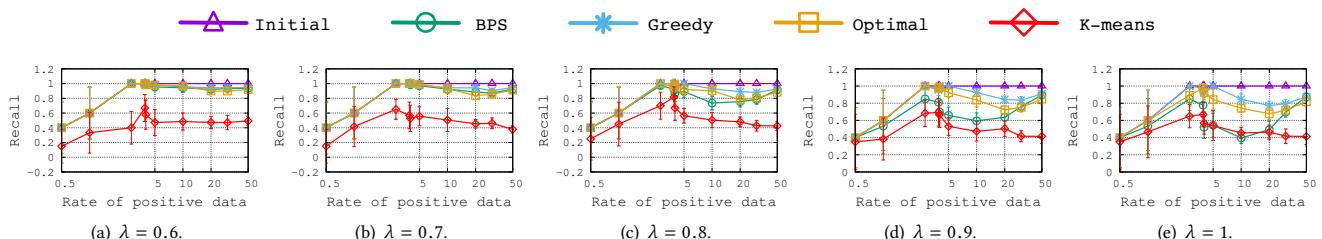
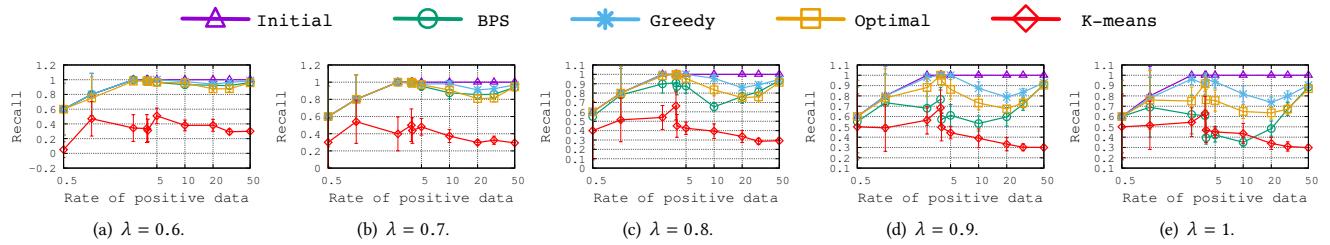


Figure 51: Performance on the Enron dataset (noisy scoring function with  $\#data = 100$ ).



**Figure 52: Performance on the Enron dataset (noisy scoring function with  $\#data= 150$ ) .**

## 1.7 F1-Score vs. #Data

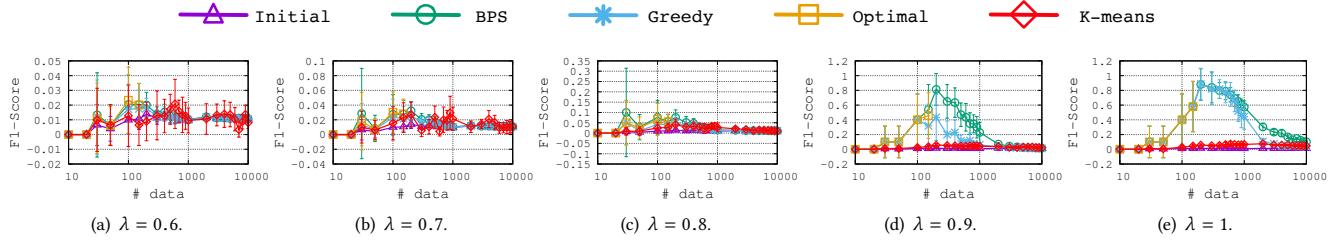


Figure 53: Performance on the Enron dataset (noisy scoring function with 0.5% of malicious data).

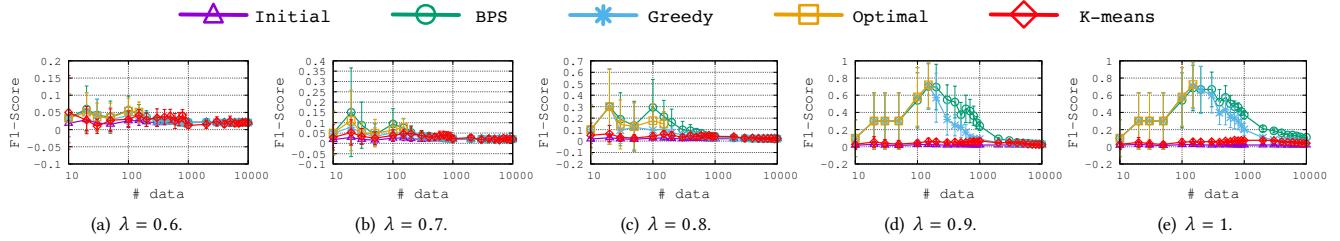


Figure 54: Performance on the Enron dataset (noisy scoring function with 1% of malicious data).

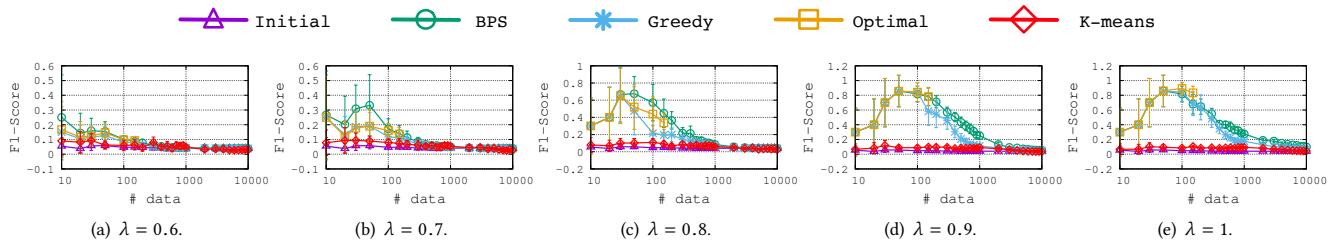


Figure 55: Performance on the Enron dataset (noisy scoring function with 2% of malicious data).

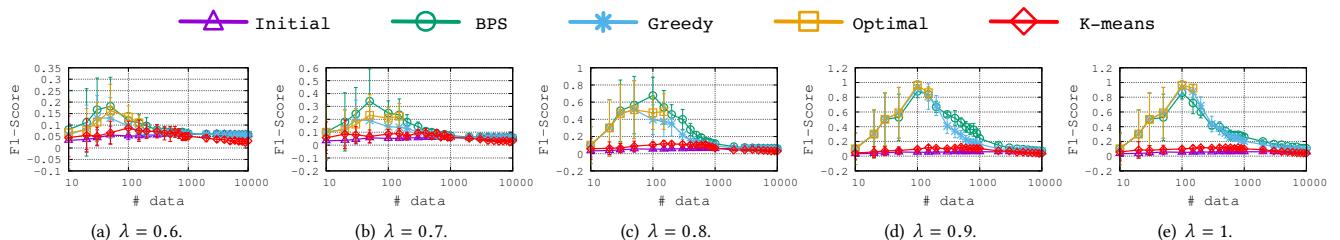


Figure 56: Performance on the Enron dataset (noisy scoring function with 3% of malicious data).

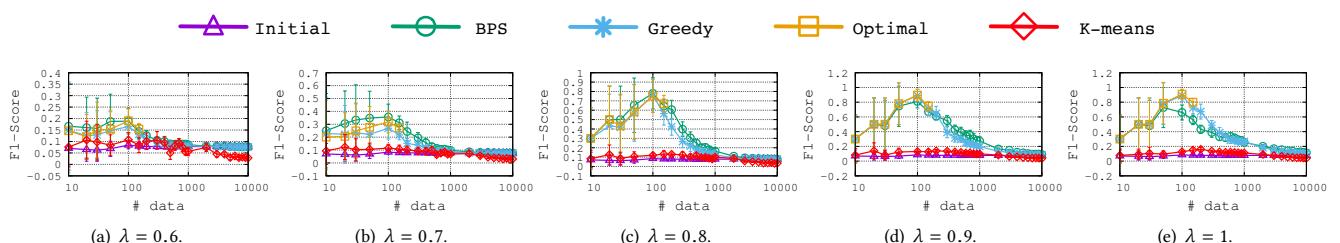


Figure 57: Performance on the Enron dataset (noisy scoring function with 4% of malicious data).

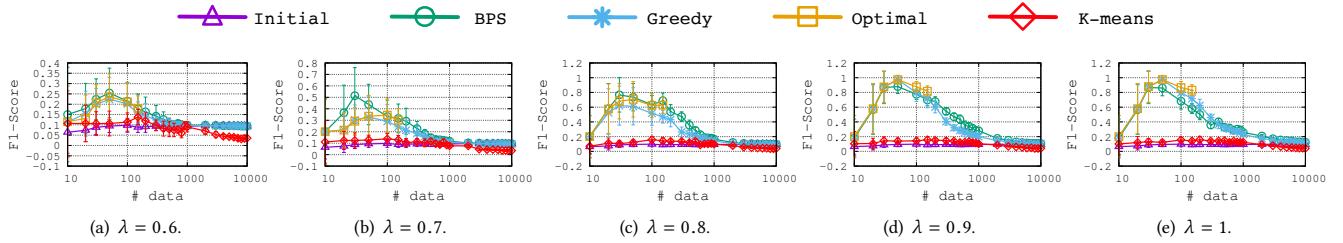


Figure 58: Performance on the Enron dataset (noisy scoring function with 5% of malicious data).

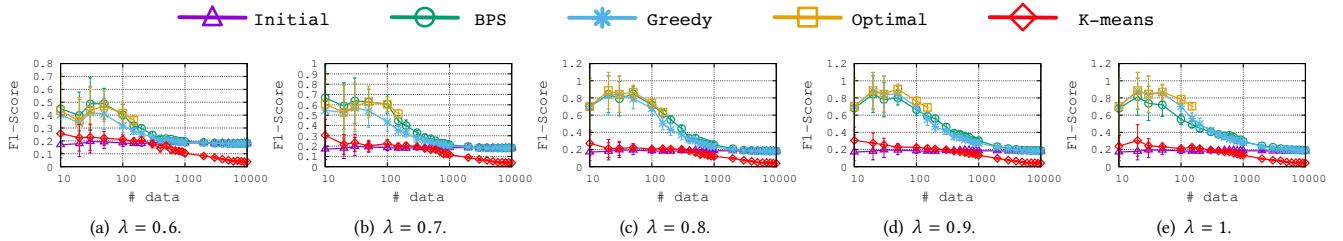


Figure 59: Performance on the Enron dataset (noisy scoring function with 10% of malicious data).

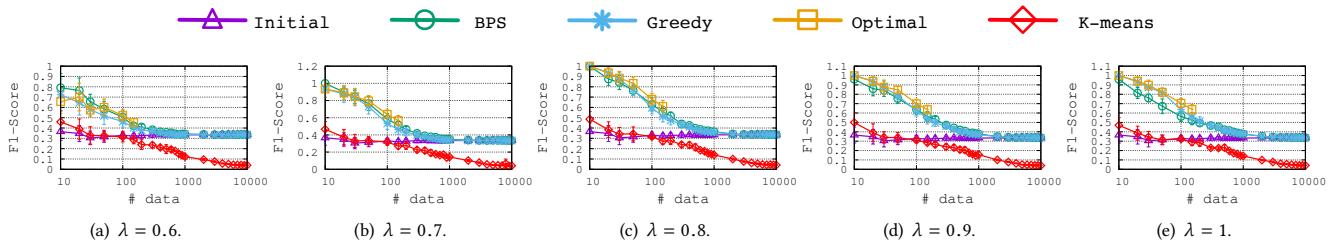


Figure 60: Performance on the Enron dataset (noisy scoring function with 20% of malicious data).

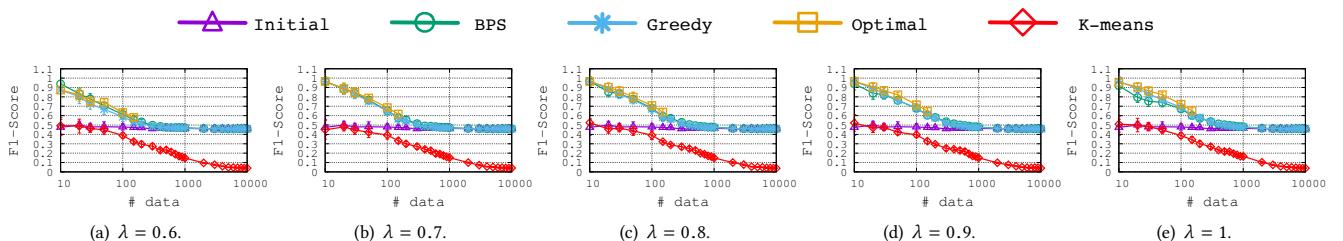


Figure 61: Performance on the Enron dataset (noisy scoring function with 30% of malicious data).

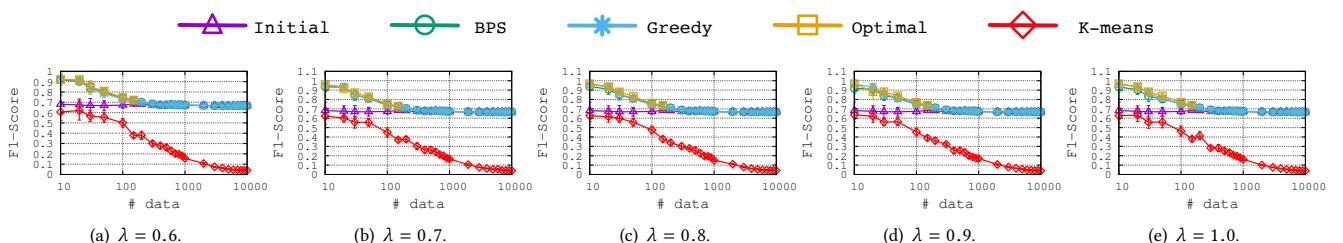


Figure 62: Performance on the Enron dataset (noisy scoring function with 50% of malicious data).

## 1.8 F1-Score vs. $\lambda$

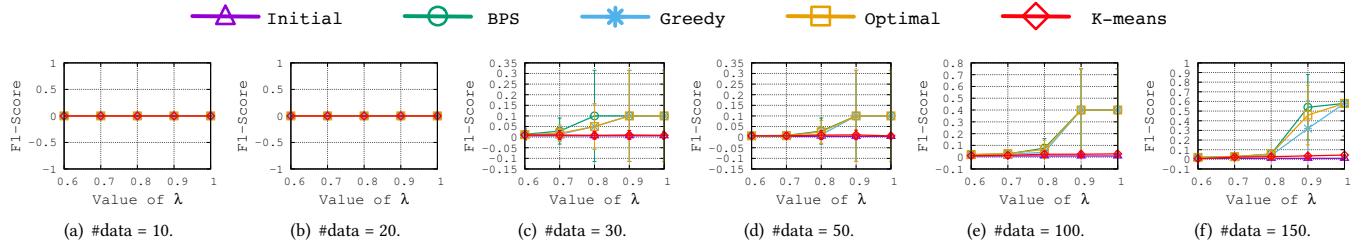


Figure 63: Performance on the Enron dataset (noisy scoring function with 0.5% of malicious data).

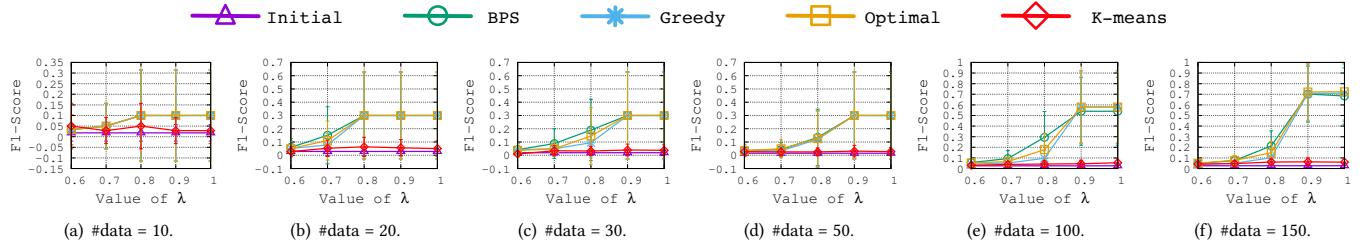


Figure 64: Performance on the Enron dataset (noisy scoring function with 1.0% of malicious data).

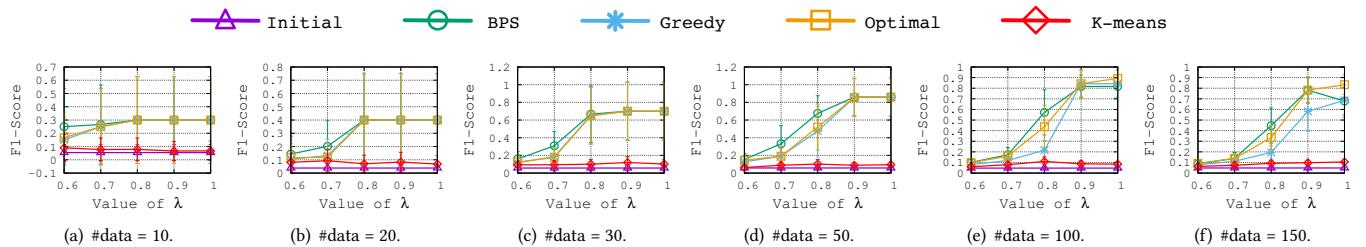


Figure 65: Performance on the Enron dataset (noisy scoring function with 2.0% of malicious data).

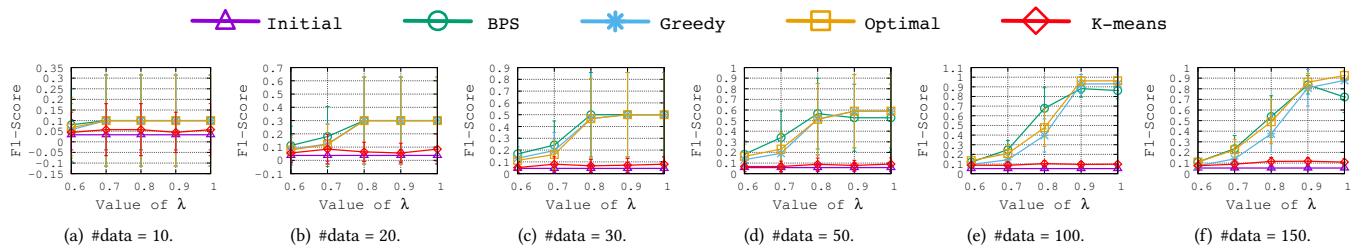


Figure 66: Performance on the Enron dataset (noisy scoring function with 3.0% of malicious data).

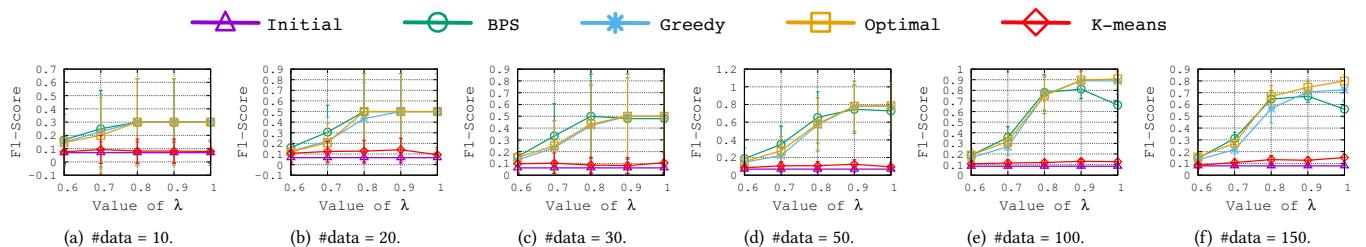


Figure 67: Performance on the Enron dataset (noisy scoring function with 4.0% of malicious data).

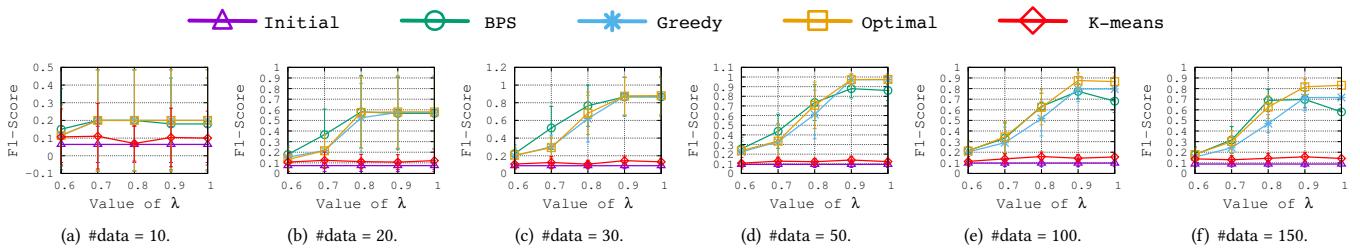


Figure 68: Performance on the Enron dataset (noisy scoring function with 5.0% of malicious data).

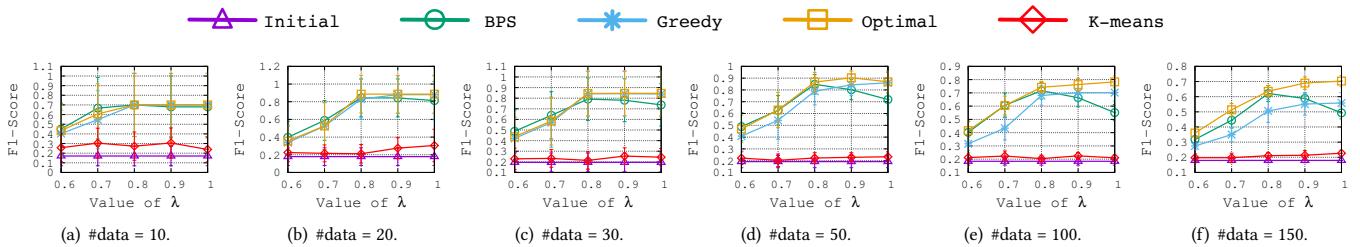


Figure 69: Performance on the Enron dataset (noisy scoring function with 10.0% of malicious data).

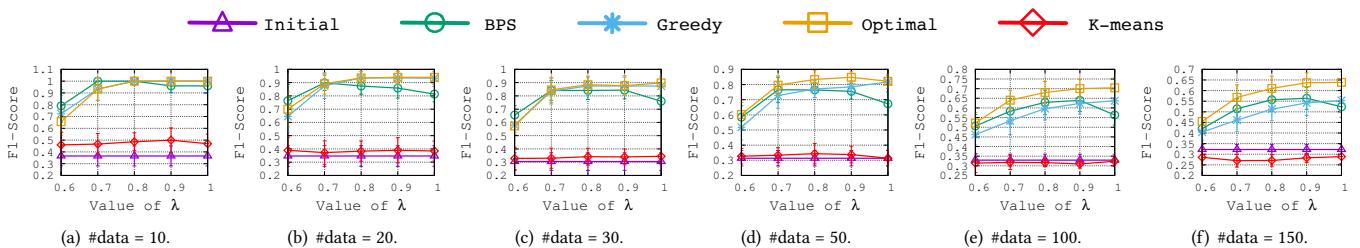


Figure 70: Performance on the Enron dataset (noisy scoring function with 20.0% of malicious data).

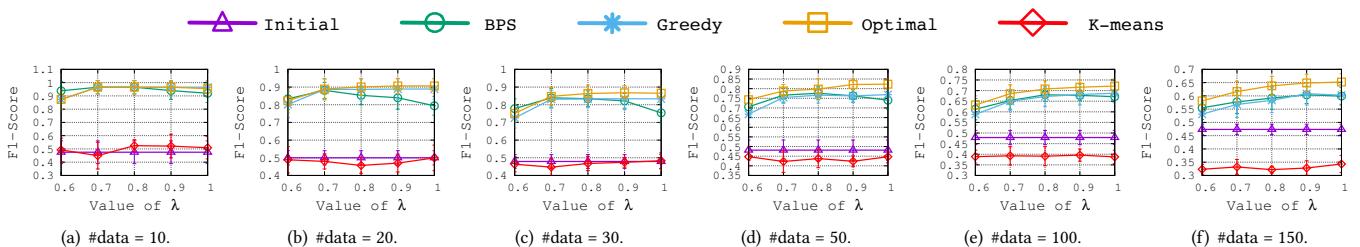


Figure 71: Performance on the Enron dataset (noisy scoring function with 30.0% of malicious data).

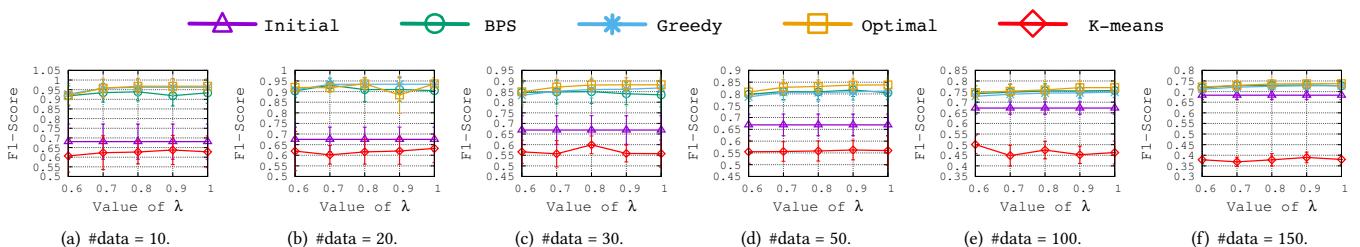


Figure 72: Performance on the Enron dataset (noisy scoring function with 50.0% of malicious data).

## 1.9 F1-Score vs. Rate of positive data

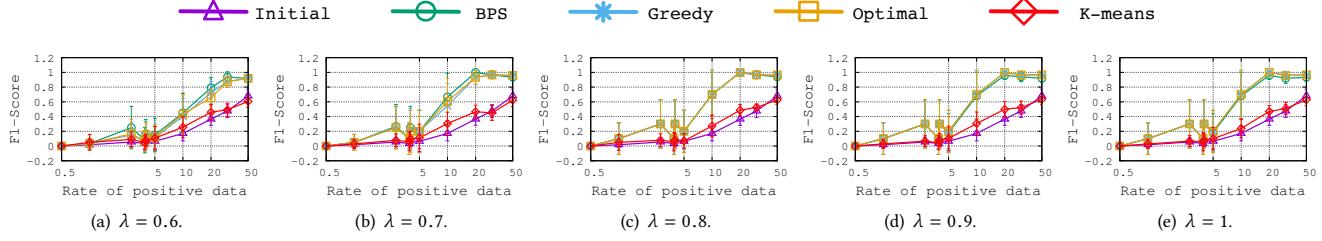


Figure 73: Performance on the Enron dataset (noisy scoring function with #data= 10).

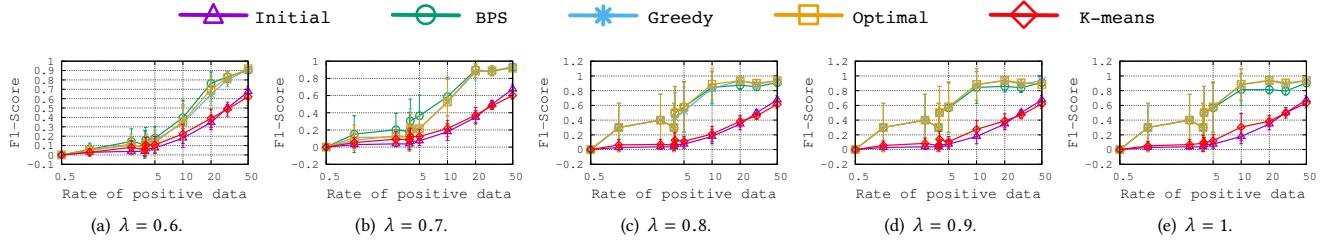


Figure 74: Performance on the Enron dataset (noisy scoring function with #data= 20).

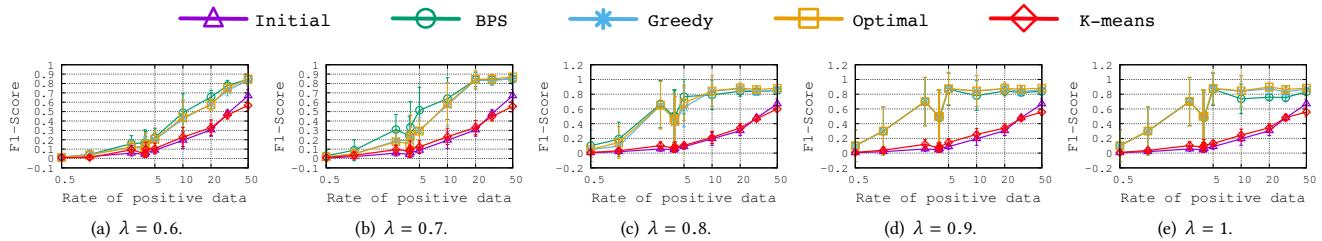


Figure 75: Performance on the Enron dataset (noisy scoring function with #data= 30).

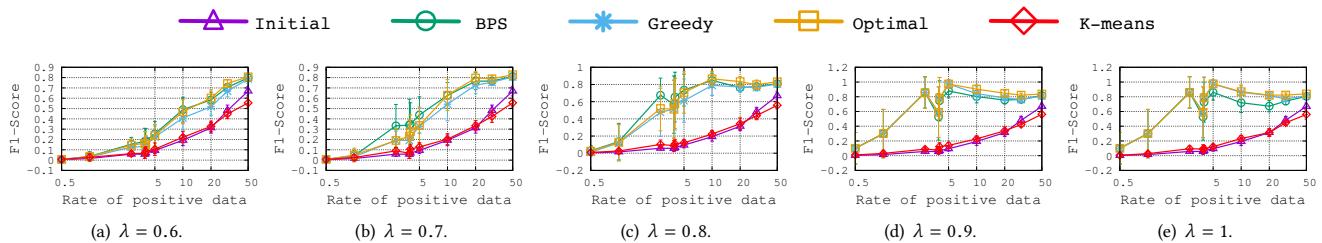


Figure 76: Performance on the Enron dataset (noisy scoring function with #data= 50).

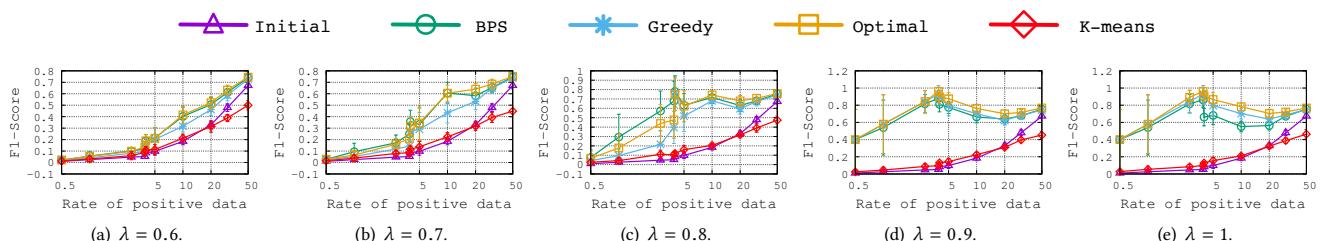
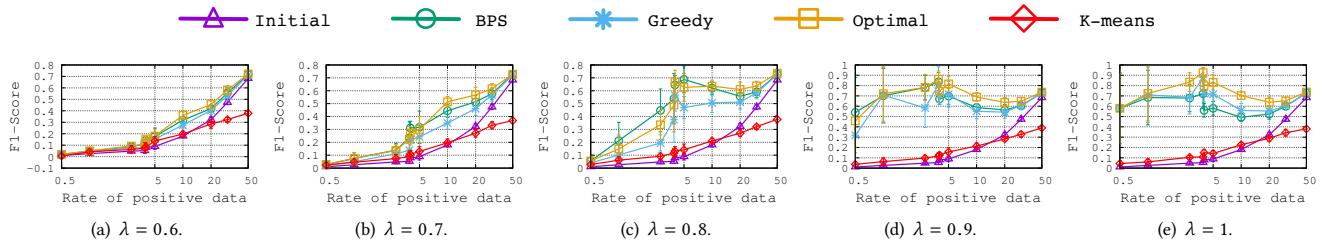


Figure 77: Performance on the Enron dataset (noisy scoring function with #data= 100).



**Figure 78: Performance on the Enron dataset (noisy scoring function with #data= 150) .**

## 1.10 EF1-Score vs. #Data

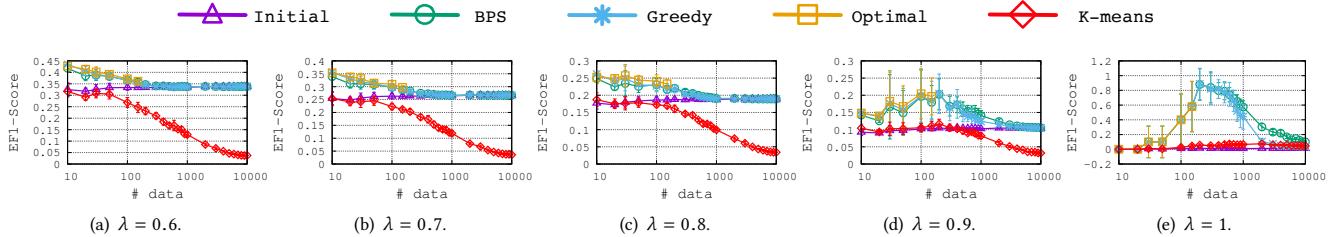


Figure 79: Performance on the Enron dataset (noisy scoring function with 0.5% of malicious data).

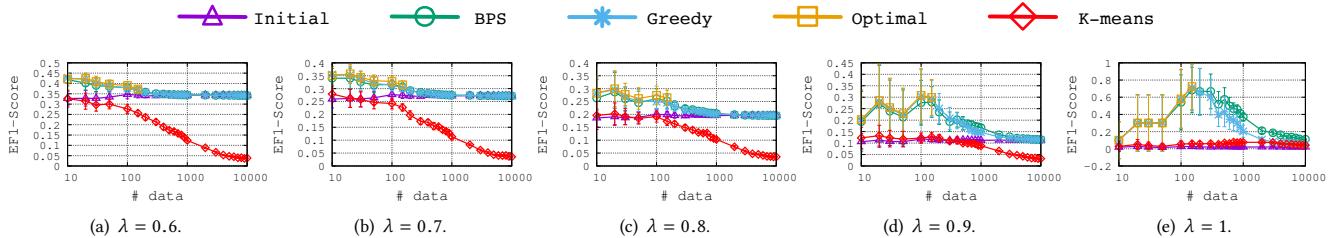


Figure 80: Performance on the Enron dataset (noisy scoring function with 1% of malicious data).

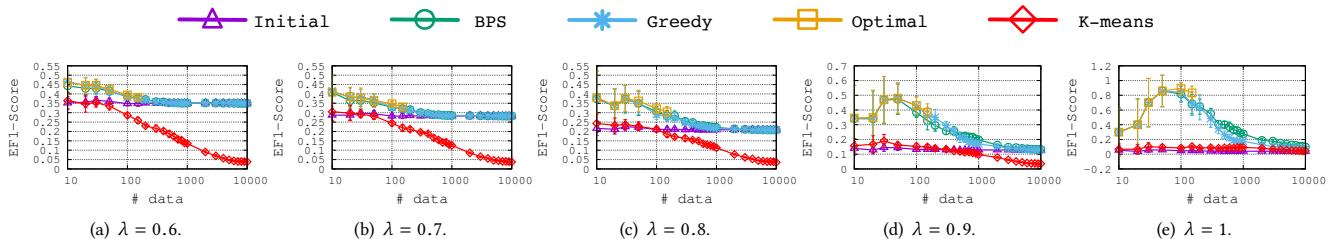


Figure 81: Performance on the Enron dataset (noisy scoring function with 2% of malicious data).

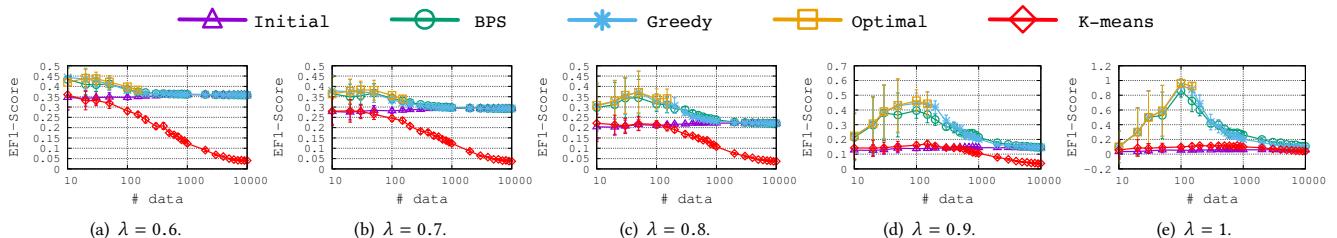


Figure 82: Performance on the Enron dataset (noisy scoring function with 3% of malicious data).

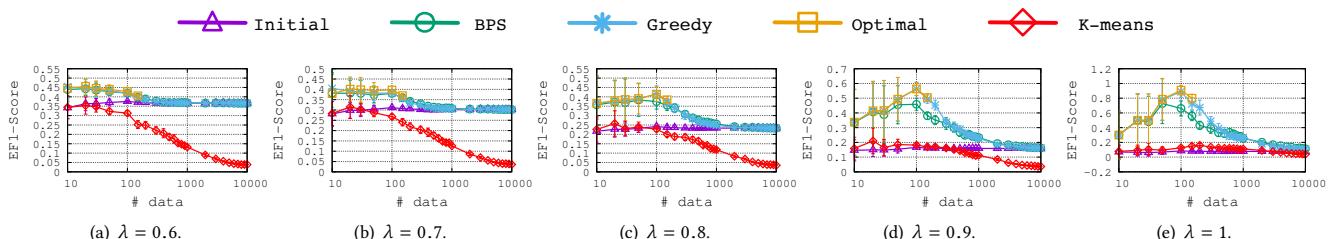
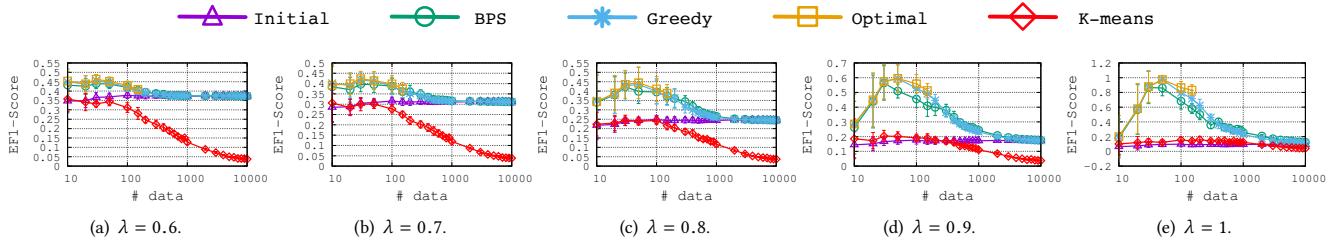
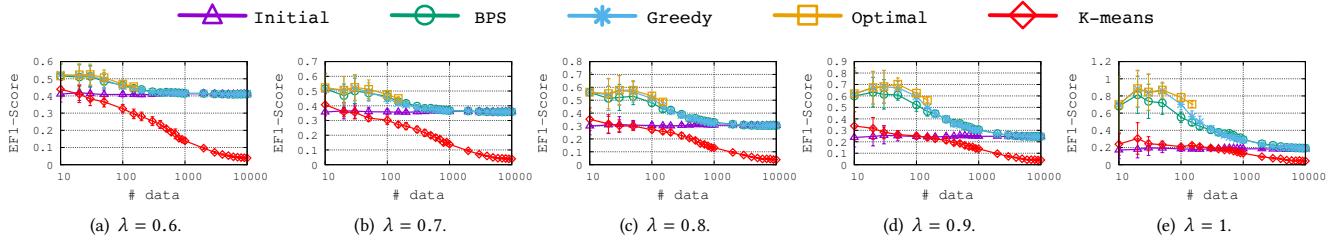


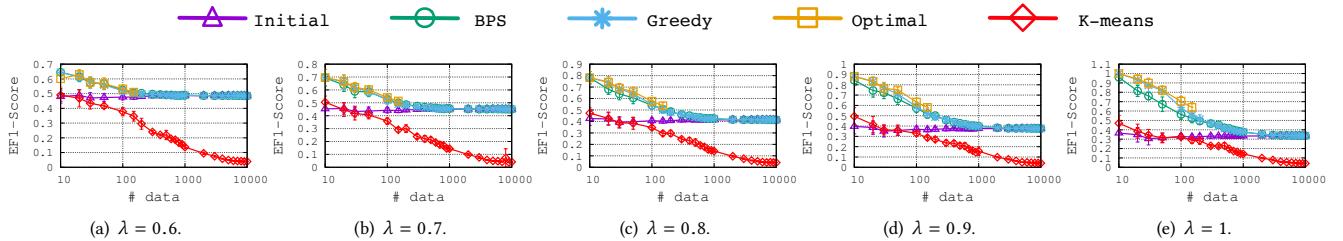
Figure 83: Performance on the Enron dataset (noisy scoring function with 4% of malicious data).



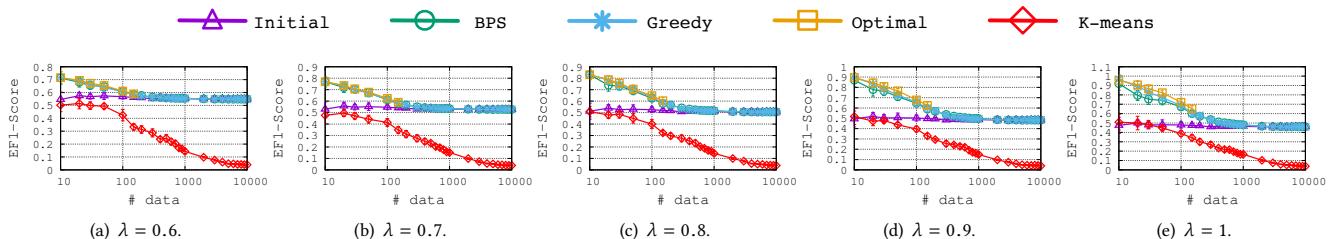
**Figure 84: Performance on the Enron dataset (noisy scoring function with 5% of malicious data).**



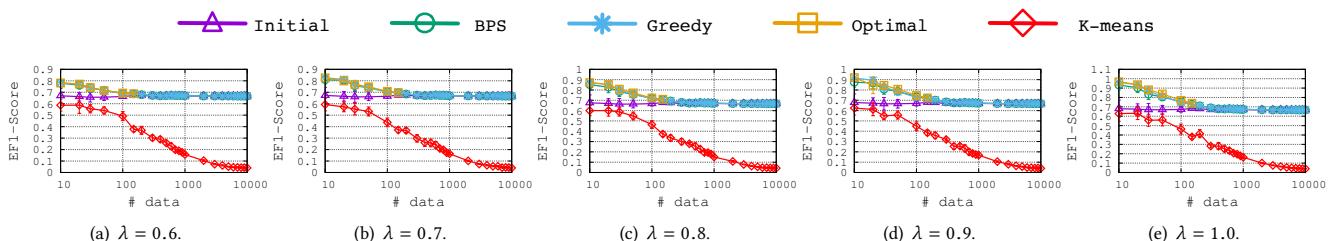
**Figure 85: Performance on the Enron dataset (noisy scoring function with 10% of malicious data).**



**Figure 86: Performance on the Enron dataset (noisy scoring function with 20% of malicious data).**



**Figure 87: Performance on the Enron dataset (noisy scoring function with 30% of malicious data).**



**Figure 88: Performance on the Enron dataset (noisy scoring function with 50% of malicious data).**

## 1.11 EF1-Score vs. $\lambda$

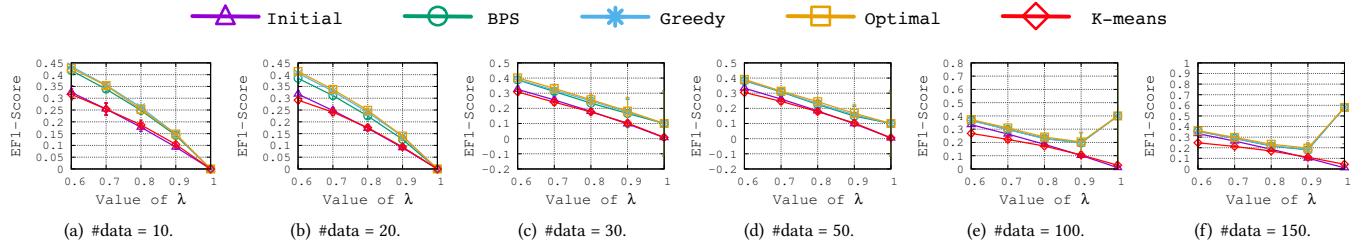


Figure 89: Performance on the Enron dataset (noisy scoring function with 0.5% of malicious data).

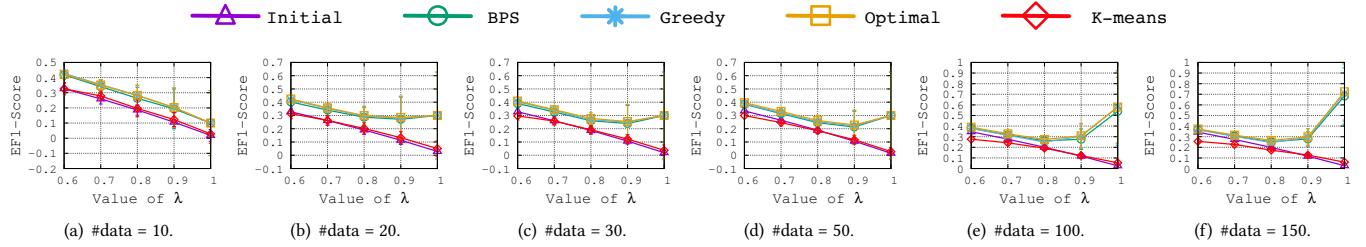


Figure 90: Performance on the Enron dataset (noisy scoring function with 1.0% of malicious data).

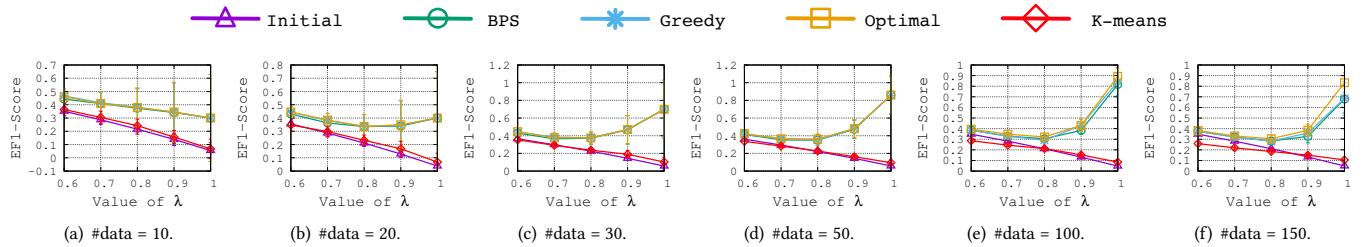


Figure 91: Performance on the Enron dataset (noisy scoring function with 2.0% of malicious data).

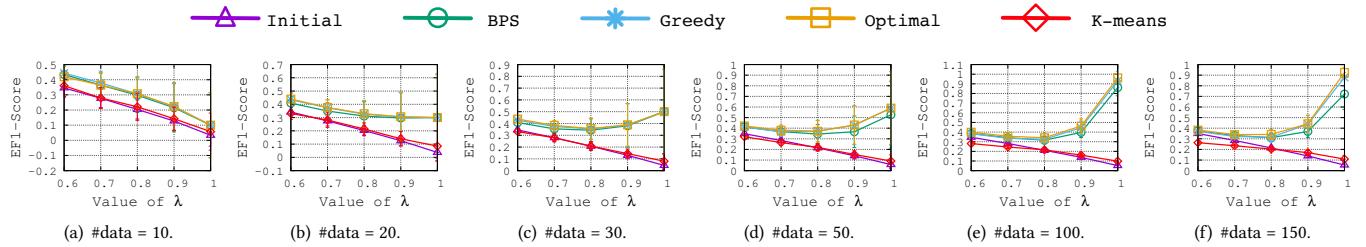


Figure 92: Performance on the Enron dataset (noisy scoring function with 3.0% of malicious data).

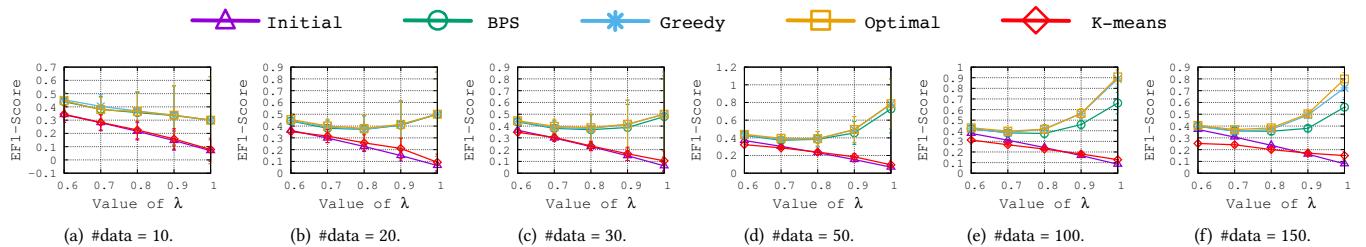


Figure 93: Performance on the Enron dataset (noisy scoring function with 4.0% of malicious data).

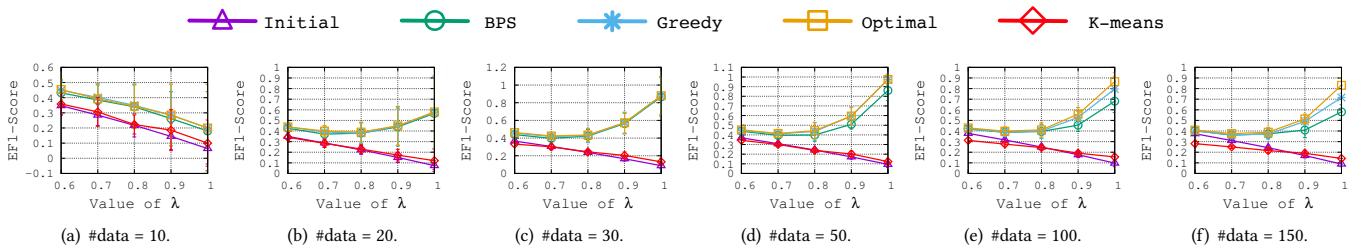


Figure 94: Performance on the Enron dataset (noisy scoring function with 5.0% of malicious data).

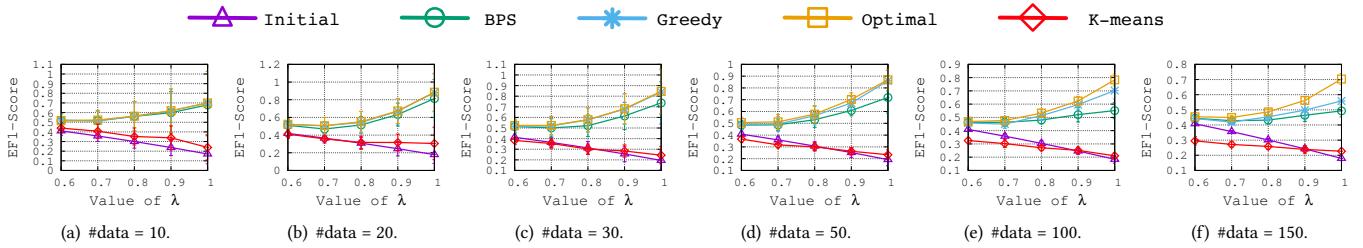


Figure 95: Performance on the Enron dataset (noisy scoring function with 10.0% of malicious data).

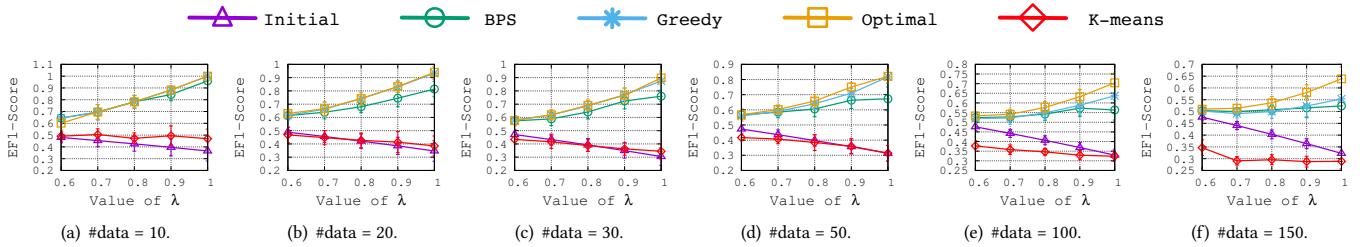


Figure 96: Performance on the Enron dataset (noisy scoring function with 20.0% of malicious data).

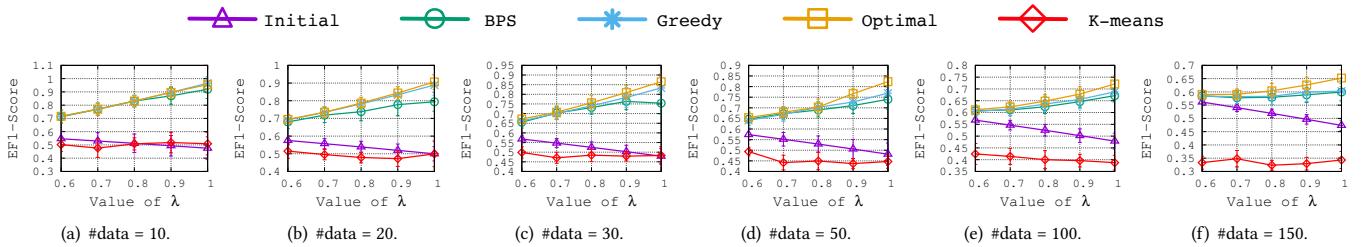


Figure 97: Performance on the Enron dataset (noisy scoring function with 30.0% of malicious data).

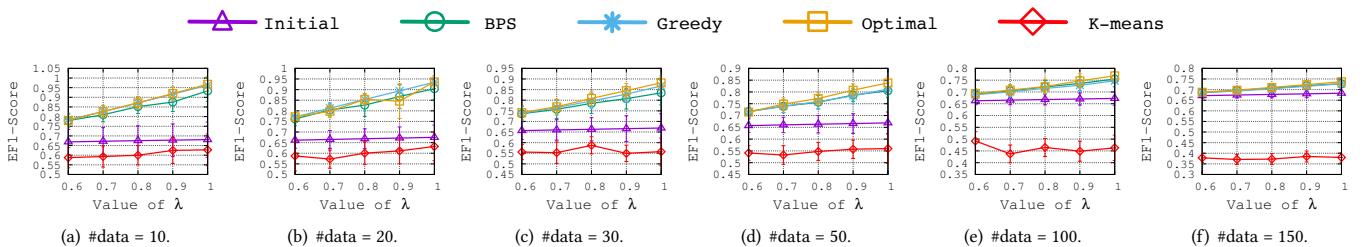


Figure 98: Performance on the Enron dataset (noisy scoring function with 50.0% of malicious data).

## 1.12 EF1-Score vs. Rate of positive data

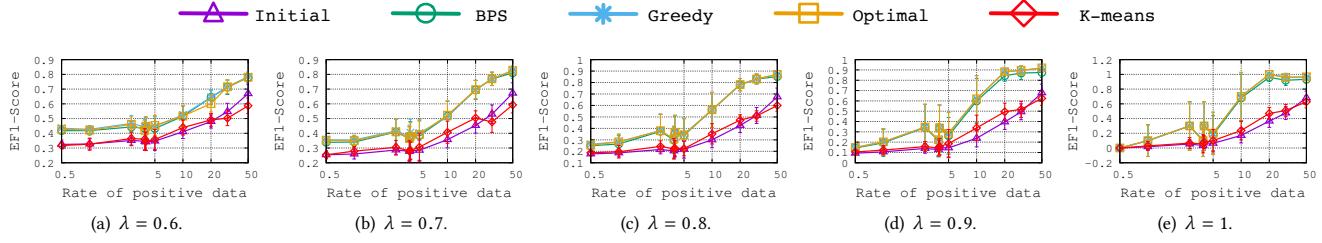


Figure 99: Performance on the Enron dataset (noisy scoring function with #data= 10).

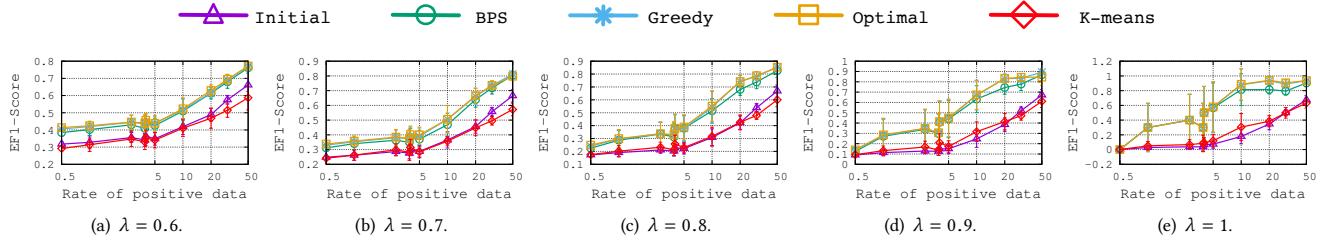


Figure 100: Performance on the Enron dataset (noisy scoring function with #data= 20).

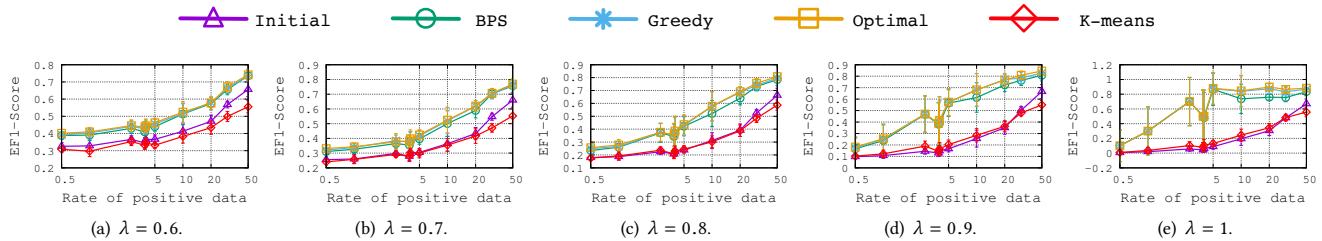


Figure 101: Performance on the Enron dataset (noisy scoring function with #data= 30).

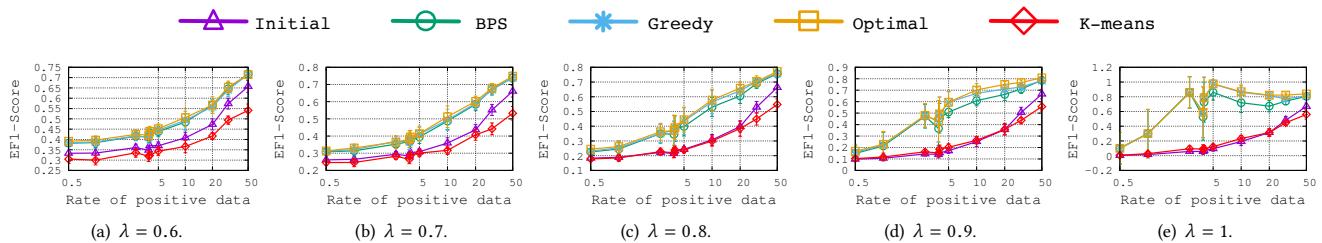


Figure 102: Performance on the Enron dataset (noisy scoring function with #data= 50).

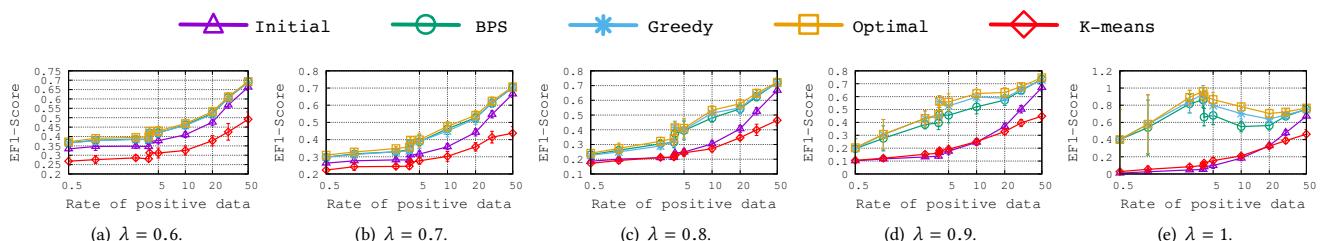
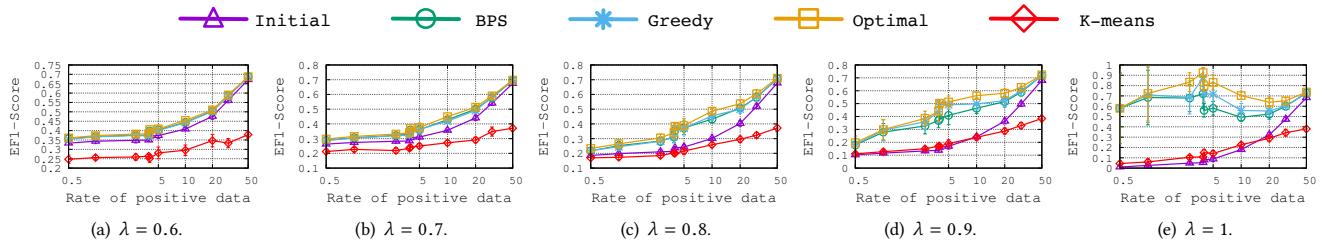


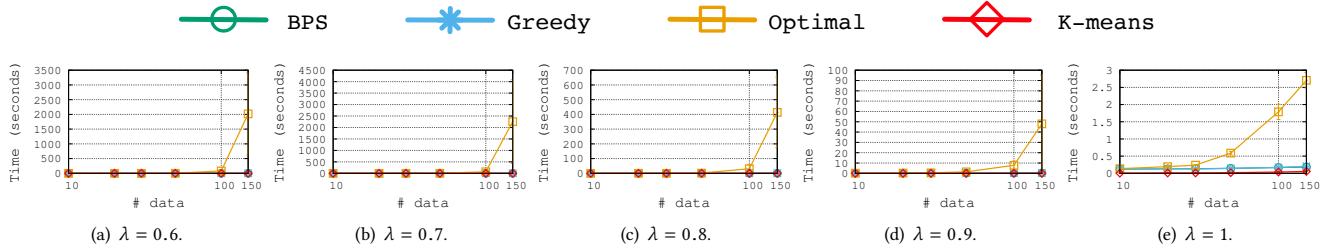
Figure 103: Performance on the Enron dataset (noisy scoring function with #data= 100).



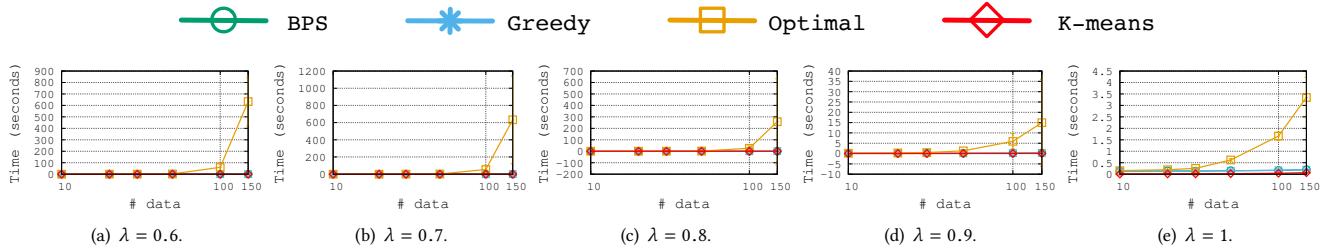
**Figure 104: Performance on the Enron dataset (noisy scoring function with  $\#data= 150$ ) .**

## 2 COMPUTATIONAL TIME COMPLEXITY

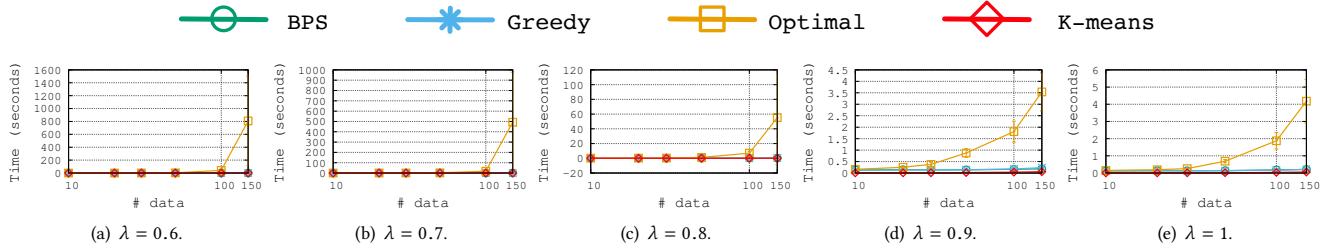
## 2.1 Time vs. #Data



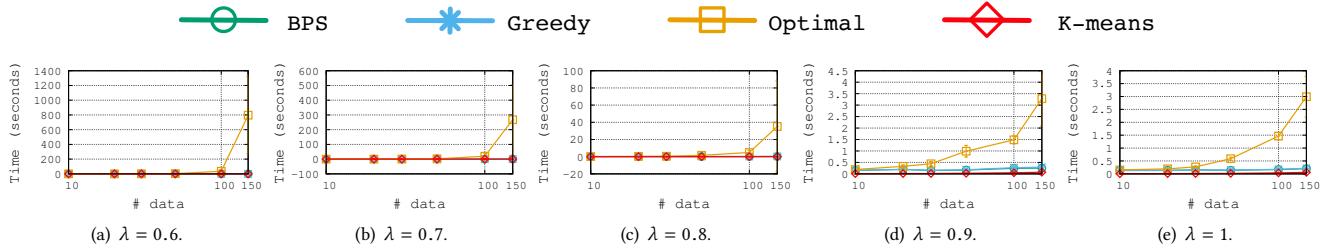
**Figure 105: Time complexity on the Enron dataset (noisy scoring function with 0.5% of malicious data).**



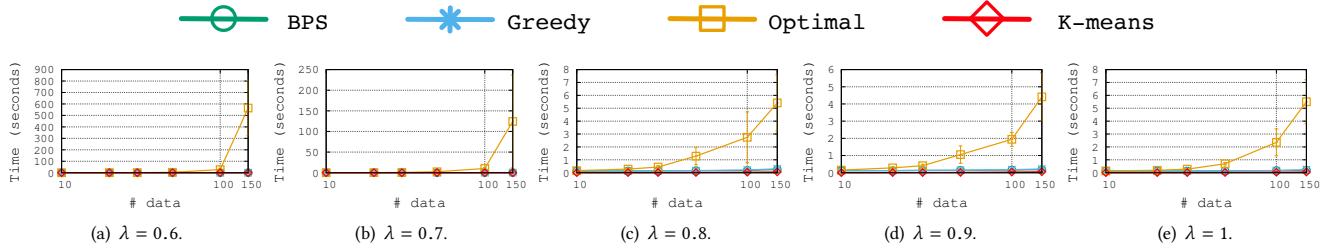
**Figure 106: Time complexity on the Enron dataset (noisy scoring function with 1% of malicious data).**



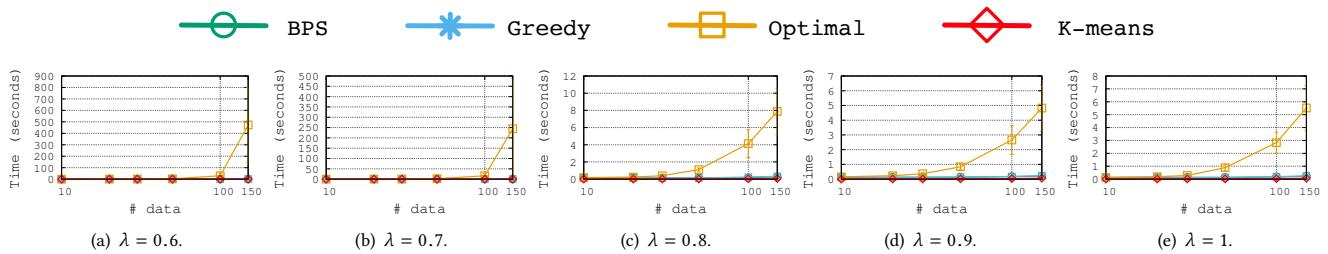
**Figure 107: Time complexity on the Enron dataset (noisy scoring function with 2% of malicious data).**



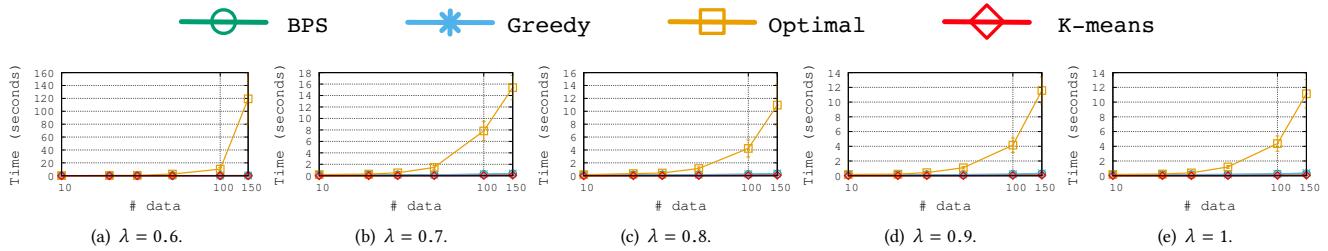
**Figure 108: Time complexity on the Enron dataset (noisy scoring function with 3% of malicious data).**



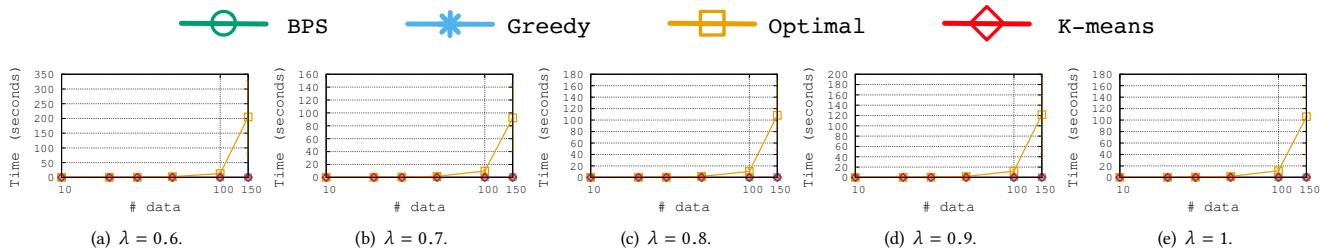
**Figure 109: Time complexity on the Enron dataset (noisy scoring function with 4% of malicious data).**



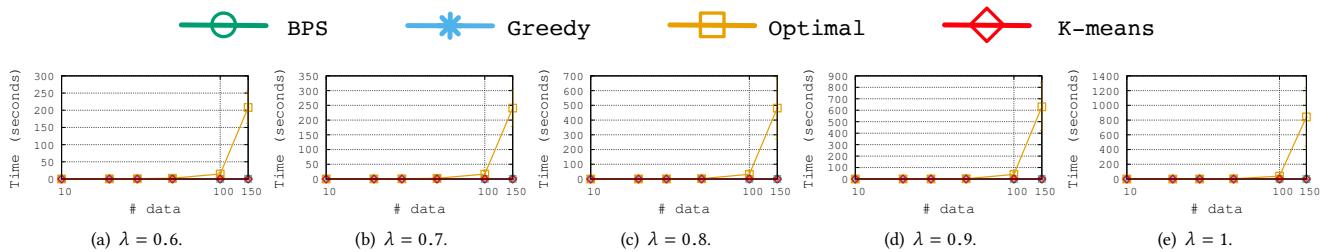
**Figure 110: Time complexity on the Enron dataset (noisy scoring function with 5% of malicious data).**



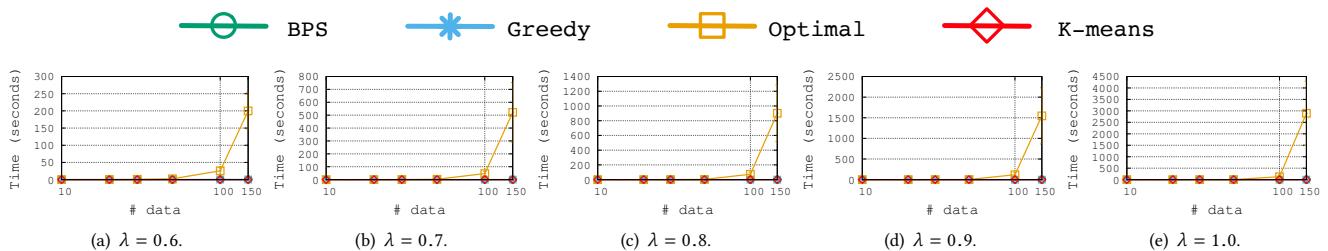
**Figure 111: Time complexity on the Enron dataset (noisy scoring function with 10% of malicious data).**



**Figure 112: Time complexity on the Enron dataset (noisy scoring function with 20% of malicious data).**



**Figure 113: Time complexity on the Enron dataset (noisy scoring function with 30% of malicious data).**



**Figure 114: Time complexity on the Enron dataset (noisy scoring function with 50% of malicious data).**

## 2.2 Time vs. $\lambda$

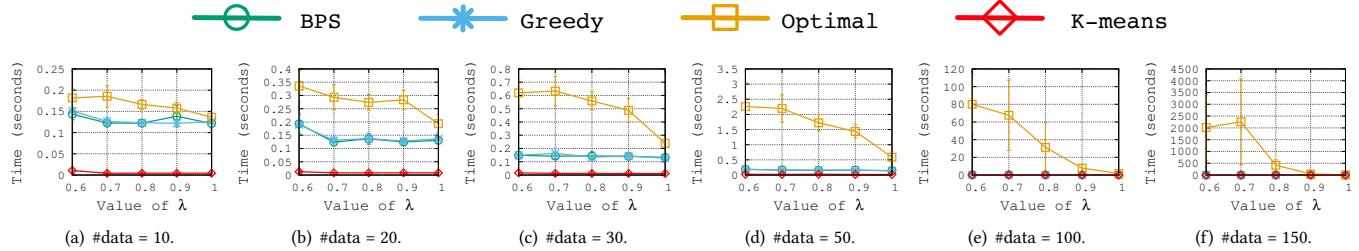


Figure 115: Time complexity on the Enron dataset (noisy scoring function with 0.5% of malicious data).

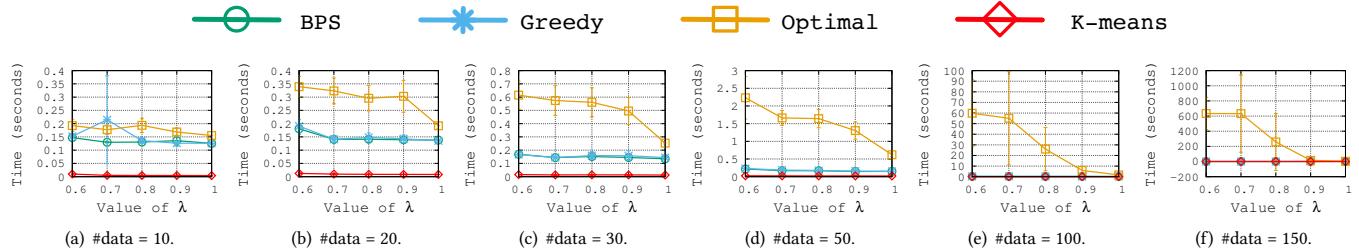


Figure 116: Time complexity on the Enron dataset (noisy scoring function with 1% of malicious data).

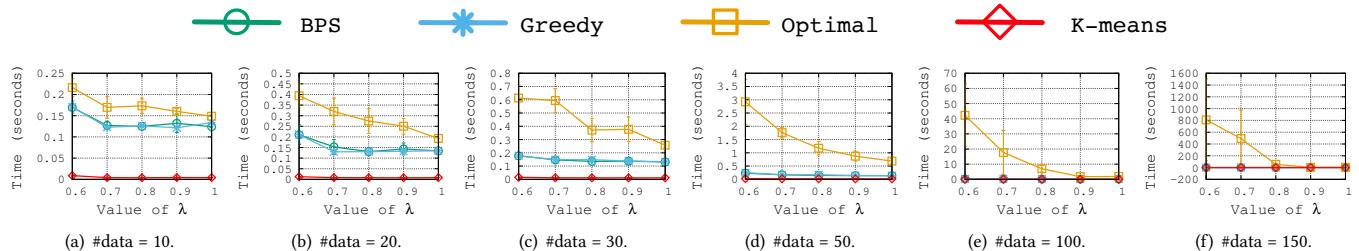


Figure 117: Time complexity on the Enron dataset (noisy scoring function with 2% of malicious data).

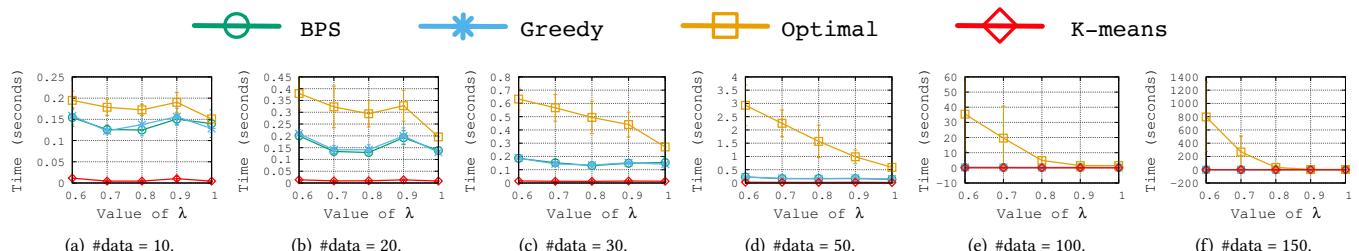


Figure 118: Time complexity on the Enron dataset (noisy scoring function with 3.0% of malicious data).

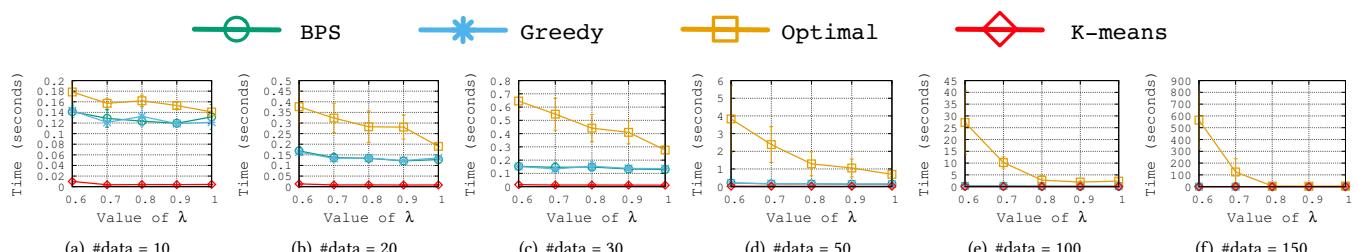


Figure 119: Time complexity on the Enron dataset (noisy scoring function with 4.0% of malicious data).

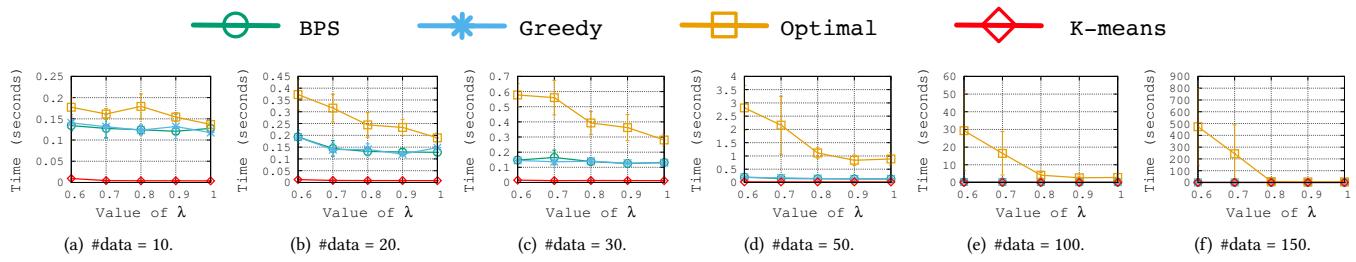


Figure 120: Time complexity on the Enron dataset (noisy scoring function with 5.0% of malicious data).

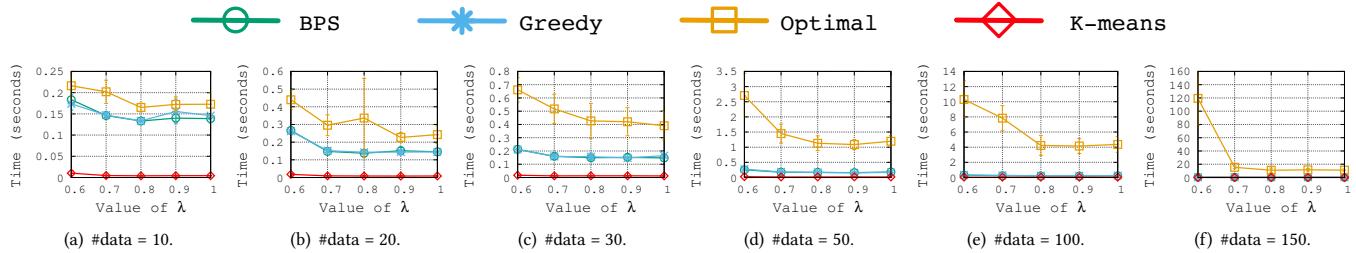


Figure 121: Time complexity on the Enron dataset (noisy scoring function with 10.0% of malicious data).

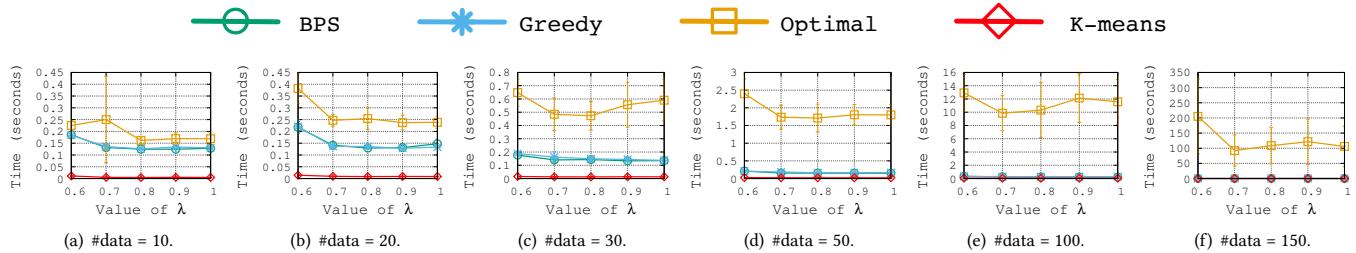


Figure 122: Time complexity on the Enron dataset (noisy scoring function with 20.0% of malicious data).

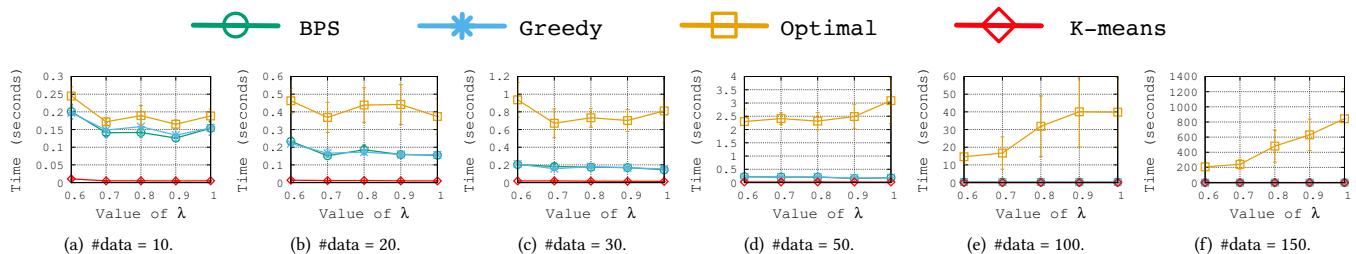


Figure 123: Time complexity on the Enron dataset (noisy scoring function with 30.0% of malicious data).

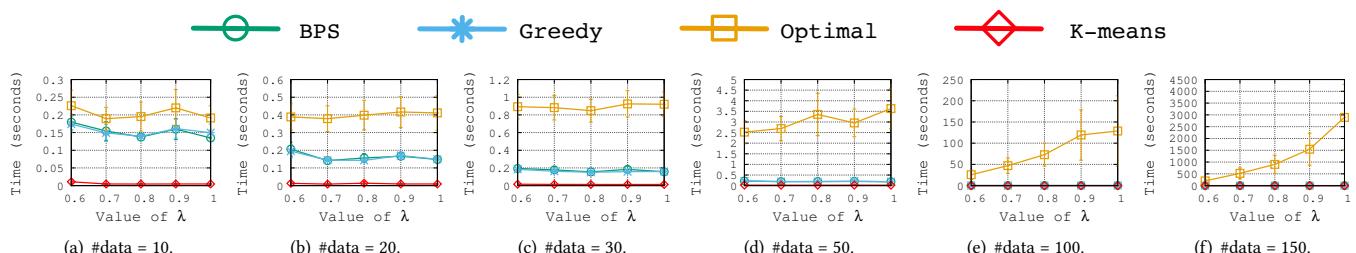


Figure 124: Time complexity on the Enron dataset (noisy scoring function with 50.0% of malicious data).

## 2.3 Time vs. Rate of positive data

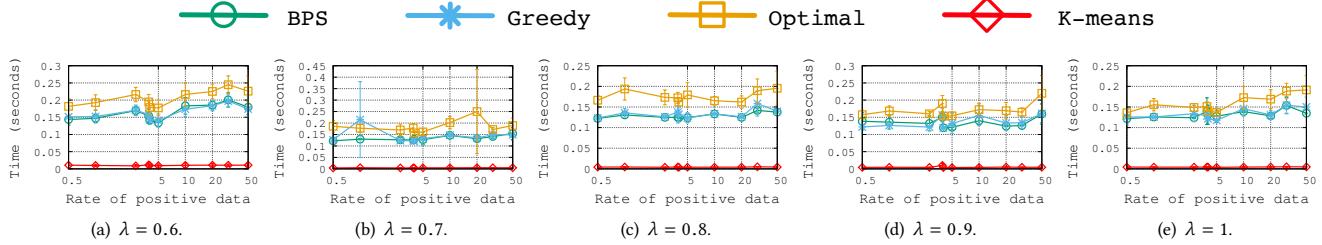


Figure 125: Time complexity on the Enron dataset (noisy scoring function with  $\#data = 10$ ).

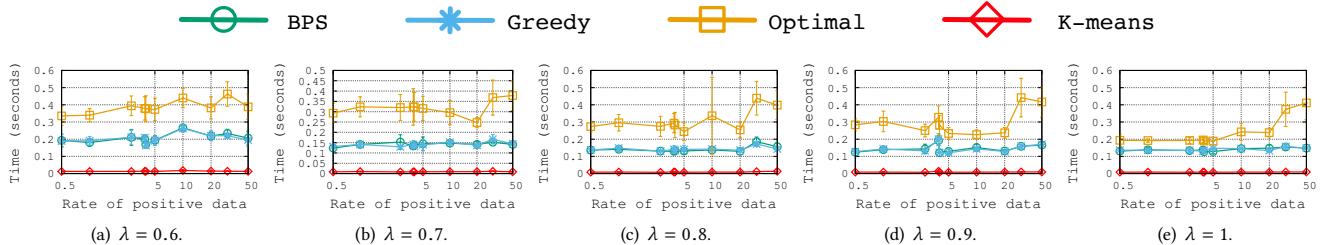


Figure 126: Time complexity on the Enron dataset (noisy scoring function with  $\#data = 20$ ).

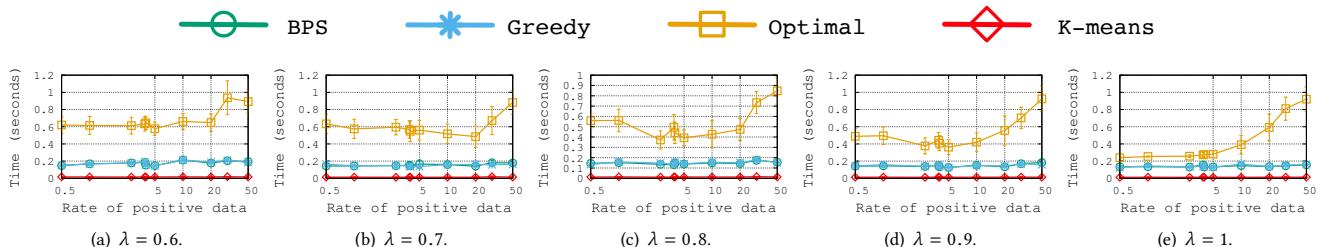


Figure 127: Time complexity on the Enron dataset (noisy scoring function with  $\#data = 30$ ).

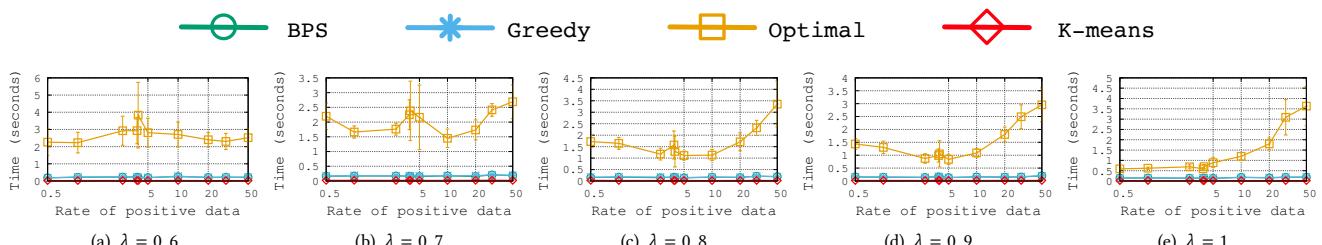


Figure 128: Time complexity on the Enron dataset (noisy scoring function with  $\#data = 50$ ).

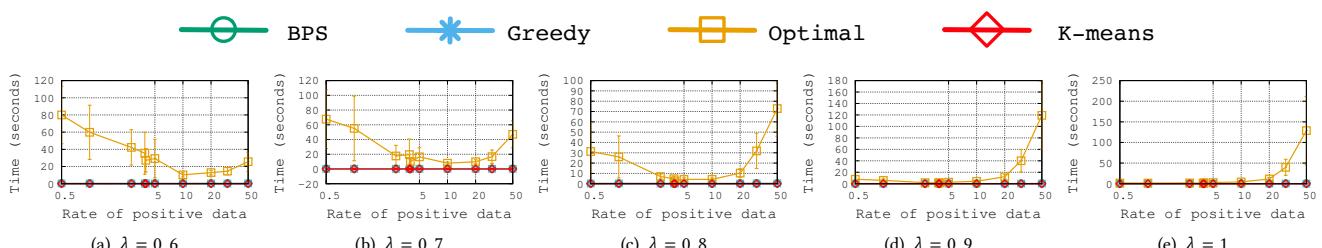
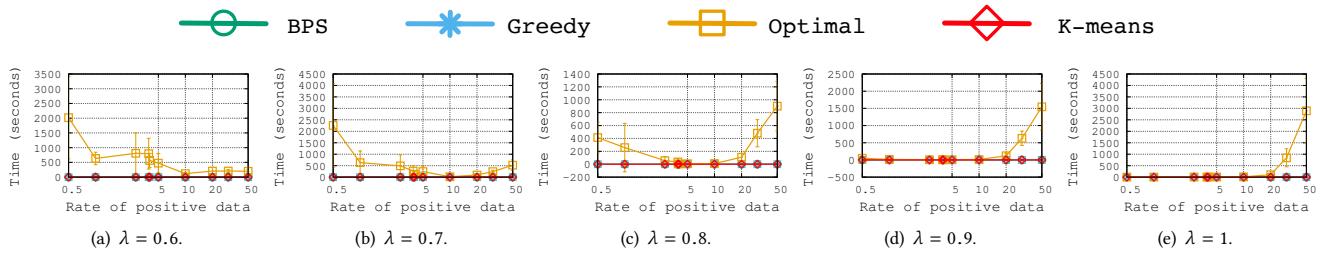


Figure 129: Time complexity on the Enron dataset (noisy scoring function with  $\#data = 100$ ).



**Figure 130: Time complexity on the Enron dataset (noisy scoring function with #data= 150) .**