```
plt.xlabel('components')
           plt.ylabel('accuracy'
Out[14]: Text(0,0.5,u'accuracy')
             0.95
              0.90
            accuracy
              0.85
              0.80
```

80

100

60

components

20

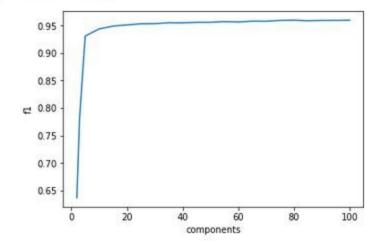
In [14]: plt.plot(array, sum score acc)

0.75

```
In [15]:
          plt.plot(array, sum score pre)
           plt.xlabel('components')
           plt.ylabel('precision')
Out[15]: Text(0,0.5,u'precision')
              0.95
              0.90
              0.85
            precision
              0.80
              0.75
              0.70
                           20
                                                     80
                                    40
                                            60
                                                             100
                                     components
```

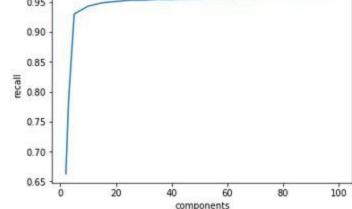
```
In [16]: plt.plot(array,sum_score_f1)
    plt.xlabel('components')
    plt.ylabel('f1')
```

Out[16]: Text(0,0.5,u'f1')



```
In [17]: plt.plot(array,sum_score_rec)
    plt.xlabel('components')
    plt.ylabel('recall')

Out[17]: Text(0,0.5,u'recall')
```



```
plt.xlabel('components')
            plt.ylabel('accuracy')
Out[10]: Text(0,0.5,u'accuracy')
               0.95
               0.90
               0.85
               0.80
               0.75
                            5.0
                                  7.5
                      2.5
                                                         17.5
                                       10.0
                                             12.5
                                                   15.0
                                                                20.0
                                       components
```

In [10]: plt.plot(array2, sum score acc)

```
plt.ylabel('precision')
Out[11]:
            Text(0,0.5,u'precision')
                0.95
                0.90
                0.85
              precision
                0.80
                0.75
                0.70
                       2.5
                              5.0
                                    7.5
                                           10.0
                                                 12.5
                                                        15.0
                                                              17.5
                                                                     20.0
                                          components
```

plt.plot(array2, sum score pre)

plt.xlabel('components')

In [11]:

```
plt.ylabel('f1')
Out[12]: Text(0,0.5,u'f1')
               0.95
               0.90
               0.85
            ₾ 0.80
              0.75
               0.70
              0.65
                     2.5
                           5.0
                                7.5
                                                 15.0
                                                       17.5
                                      10.0
                                           12.5
                                                             20.0
                                     components
In [13]:
            plt.plot(array2, sum score rec)
            plt.xlabel('components')
            plt.ylabel('recall')
Out[13]:
           Text(0,0.5,u'recall')
              0.95
               0.90
               0.85
```

0.80

0.75

0.70

0.65

2.5

5.0

7.5

10.0

15.0

12.5 components

17.5

20.0

plt.plot(array2, sum score f1) plt.xlabel('components')

In [12]:

```
Out[21]:
            Text(0,0.5,u'accuracy')
                0.95
                0.90
              accuracy
                0.85
                0.80
                0.75
                               20
                                                            80
                                                                     100
                     ò
                                         40
                                                  60
                                          components
In [22]:
             plt.plot(array,rf score pre)
             plt.xlabel('components')
plt.ylabel('precision')
Out[22]: Text(0,0.5,u'precision')
                0.95
                0.90
                0.85
                0.80
```

0.75

0.70

ò

20

40

60

components

80

100

plt.plot(array,rf_score_acc)
plt.xlabel('components')
plt.ylabel('accuracy')

In [21]:

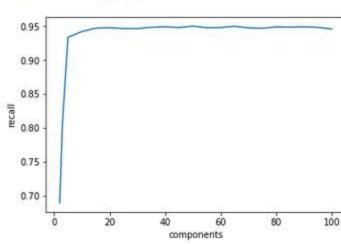
```
Out[23]:
            Text(0,0.5,u'f1')
                0.95
                0.90
                0.85
                0.80
                0.75 -
                0.70
                              20
                                                                  100
                     Ò
                                       40
                                                60
                                                         80
                                        components
In [24]:
             plt.plot(array,rf score rec)
             plt.xlabel('components')
plt.ylabel('recall')
Out[24]: Text(0,0.5,u'recall')
```

plt.plot(array,rf score f1)

plt.xlabel('components')

plt.ylabel('f1')

In [23]:



```
0.95
                0.90
               0.85
                0.80
               0.75
                      25
                            5.0
                                   7.5
                                        10.0
                                               12.5
                                                     15.0
                                                           17.5
                                                                 20.0
In [36]:
            plt.plot(array2,rf score pre)
            plt.xlabel('components')
            plt.ylabel('precision')
Out[36]:
            Text(0,0.5,u'precision')
               0.95
                0.90
               0.85
               0.80
               0.75
               0.70
                            5.0
                                   7.5
                                                           17.5
                      2.5
                                        10.0
                                               12.5
                                                     15.0
                                                                 20.0
```

components

plt.plot(array2,rf score acc)

plt.ylabel('accuracy')

Text(0,0.5,u'accuracy')

In [35]:

Out[35]:

```
plt.xlabel('components')
           plt.ylabel('f1')
Out[37]: Text(0,0.5,u'f1')
              0.95
              0.90
              0.85
              0.80
              0.75
              0.70
                                 7.5
                                                        17.5
                     2.5
                           5.0
                                      10.0
                                            12.5
                                                  15.0
                                                              20.0
                                      components
In [38]:
            plt.plot(array2,rf score rec)
            plt.xlabel('components')
           plt.ylabel('recall')
Out[38]:
           Text(0,0.5,u'recall')
              0.95 -
              0.90
              0.85
              0.80
              0.75
              0.70
                     25
                           5.0
                                 7.5
                                      10.0
                                            12.5
                                                  15.0
                                                        17.5
                                                              20.0
```

components

plt.plot(array2,rf score f1)

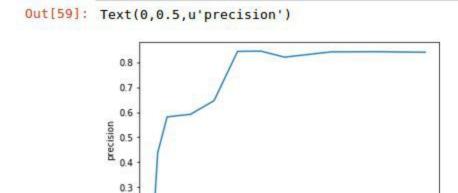
In [37]:

```
plt.ylabel('accuracy')
Out[58]:
           Text(0,0.5,u'accuracy')
              0.70 -
              0.65
              0.60
              0.55
            accuracy
              0.50
              0.45
              0.40
              0.35
                         10
                                 20
                                                       50
                                        30
                                               40
                                                              60
                                     components
In [59]:
           plt.plot(array,nb score pre)
           plt.xlabel('components')
           plt.ylabel('precision')
```

plt.plot(array,nb score acc)

plt.xlabel('components')

In [58]:



20

30

components

40

50

60

10

0.2

```
plt.ylabel('f1')
Out[60]:
          Text(0,0.5,u'f1')
              0.6
              0.5
              0.4
           Ç.
              0.3
             0.2
                       10
                              20
                                                   50
                                            40
                                                          60
                                     30
                                   components
In [61]:
           plt.plot(array,nb score rec)
           plt.xlabel('components')
           plt.ylabel('recall')
Out[61]:
          Text(0,0.5,u'recall')
              0.60
              0.55
              0.50
```

20

30

components

40

50

60

10

0.45 0.40 0.35 0.30 0.25

Ò

plt.plot(array,nb_score_f1)
plt.xlabel('components')

In [60]: