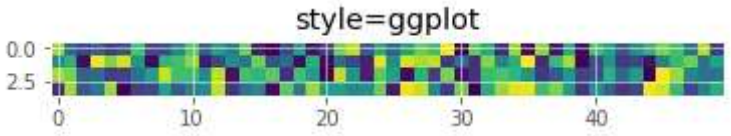
In [1]:
```
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
%matplotlib inline
```

In [2]:
```
data = np.random.randint(0, 100, size=(4, 50))
data  # numpy 随机生成数据集
```

Out[2]:
```
array([[85, 34, 22, 31, 17, 24, 71, 21, 22, 46, 72, 29, 57, 42, 77,  7,
         1, 23, 57,  5, 20, 79, 90, 30, 60, 32, 57, 76, 69, 97,  0, 75,
        61, 12, 85,  4, 82,  6, 61,  3, 70, 58, 26, 51, 65, 80, 70, 36,
        88, 18],
       [48, 64,  3, 97, 80, 93, 53,  2, 65, 69, 83,  7, 21, 48, 39, 78,
        25, 35,  3, 62,  3, 35, 21,  9, 96, 49, 93, 87, 90, 17, 36, 14,
        81, 45, 63, 99, 12, 67, 86,  1, 23, 52, 17, 21,  5, 44, 67, 77,
        37, 58],
       [86, 79, 32, 35, 18, 20, 37, 57, 92, 69, 68, 47, 90,  5, 70, 65,
        74, 14, 69, 56,  1, 90, 52,  9, 75, 57,  3, 63, 18, 79,  4, 14,
        68, 71, 65, 52, 17, 29, 53, 20, 24, 64, 33, 56,  0, 98, 85, 46,
        38, 39],
       [11, 85, 28, 40, 84,  0, 19, 22, 58, 29, 44, 49, 90, 15, 38, 47,
         3, 74, 42, 84, 55, 57, 48, 51, 76,  7, 96, 90, 47, 17, 78,  0,
        62, 84, 95, 96, 68, 80, 55, 16, 50, 33, 15, 22, 97, 93, 67, 22,
        43, 62]])
```

In [3]:
```
pd_data = pd.DataFrame(data.T)  # 转换为pandas数据格式
pd_data.columns = ['c1','c2','c3','c4']
```

In [18]:
```
plt.style.use('ggplot')  # 使用配色方案
plt.imshow(data)
plt.title('style=ggplot')
plt.show()
```

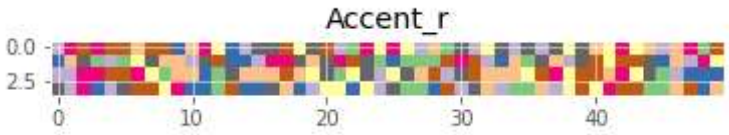


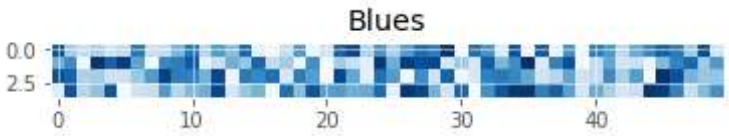
In [7]:
```
1  plt.style.available  # 查看plt主题风格
```

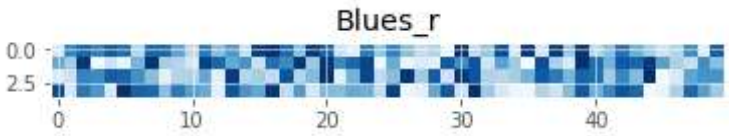
Out[7]:
```
['Solarize_Light2',
 '_classic_test_patch',
 'bmh',
 'classic',
 'dark_background',
 'fast',
 'fivethirtyeight',
 'ggplot',
 'grayscale',
 'seaborn',
 'seaborn-bright',
 'seaborn-colorblind',
 'seaborn-dark',
 'seaborn-dark-palette',
 'seaborn-darkgrid',
 'seaborn-deep',
 'seaborn-muted',
 'seaborn-notebook',
 'seaborn-paper',
 'seaborn-pastel',
 'seaborn-poster',
 'seaborn-talk',
 'seaborn-ticks',
 'seaborn-white',
 'seaborn-whitegrid',
 'tableau-colorblind10']
```

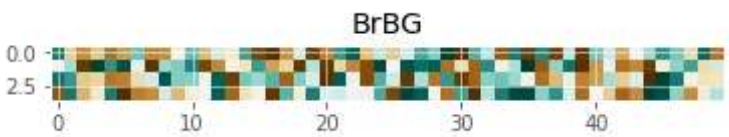
In [17]:

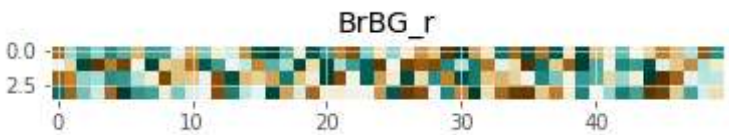
```
# 通过传入cmap改变配色方案
cmaplist = ['Accent', 'Accent_r', 'Blues', 'Blues_r', 'BrBG', 'BrBG_r', 'BuGn', 'BuGn_r', '
for cmap in cmaplist:
    plt.imshow(data, cmap=cmap)
    plt.title(cmap)
    plt.show()
```

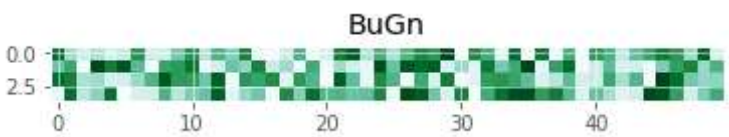


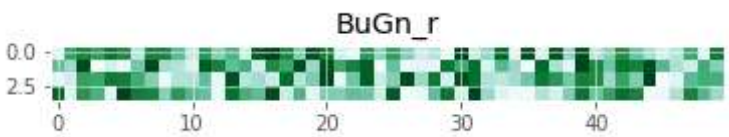


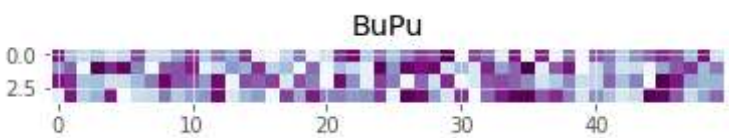


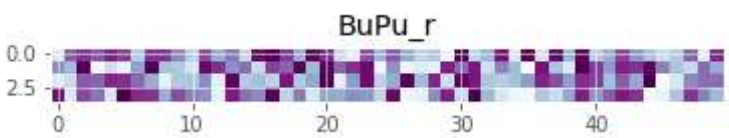


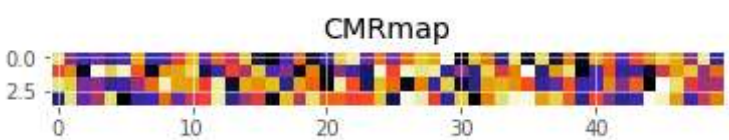


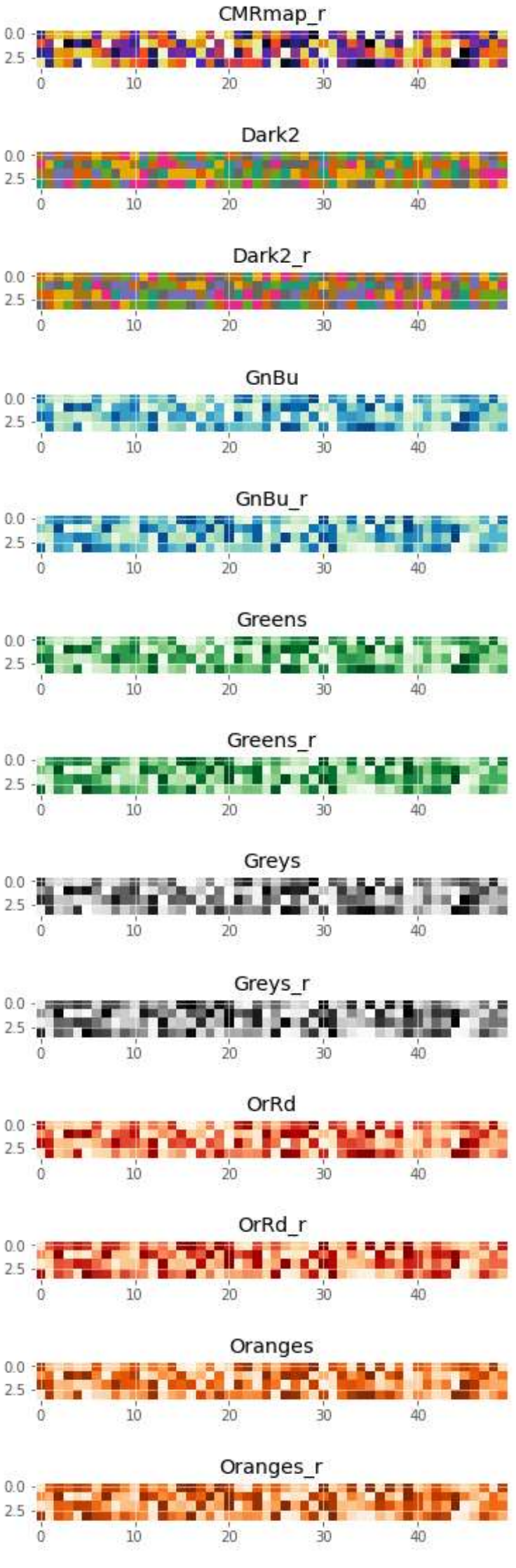


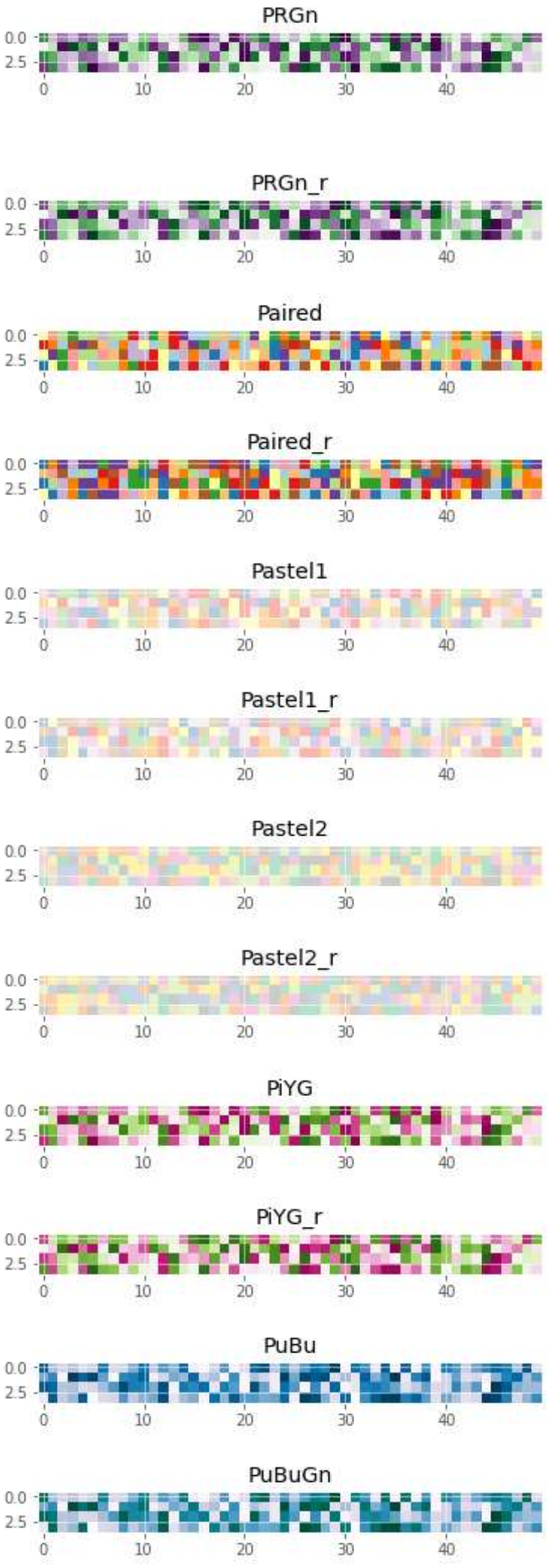









CMRmap_r
Dark2
Dark2_r
GnBu
GnBu_r
Greens
Greens_r
Greys
Greys_r
OrRd
OrRd_r
Oranges
Oranges_r
0.0
2.5
0
10
20
30
40

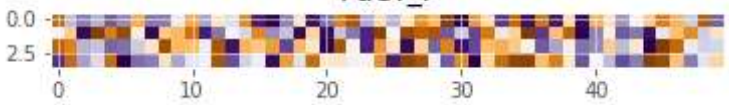

PRGn
PRGn_r
Paired
Paired_r
Pastel1
Pastel1_r
Pastel2
Pastel2_r
PiYG
PiYG_r
PuBu
PuBuGn
0.0
2.5
0
10
20
30
40

PuBuGn_r

PuBu_r

PuOr

PuOr_r



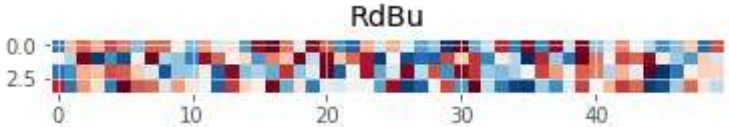
PuRd

PuRd_r

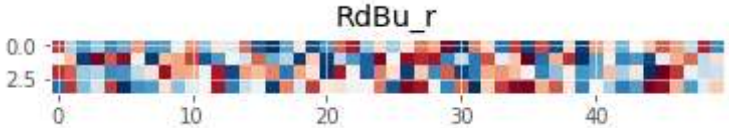
Purples

Purples_r

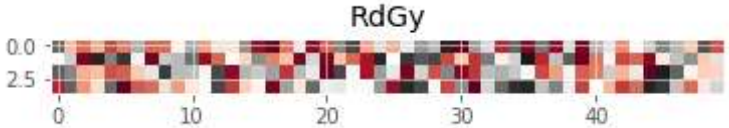
RdBu



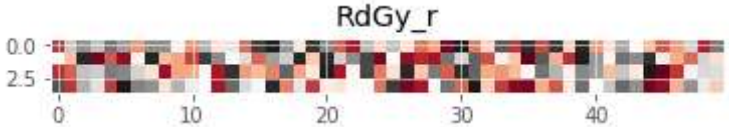
RdBu_r



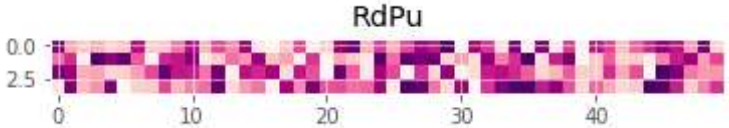
RdGy

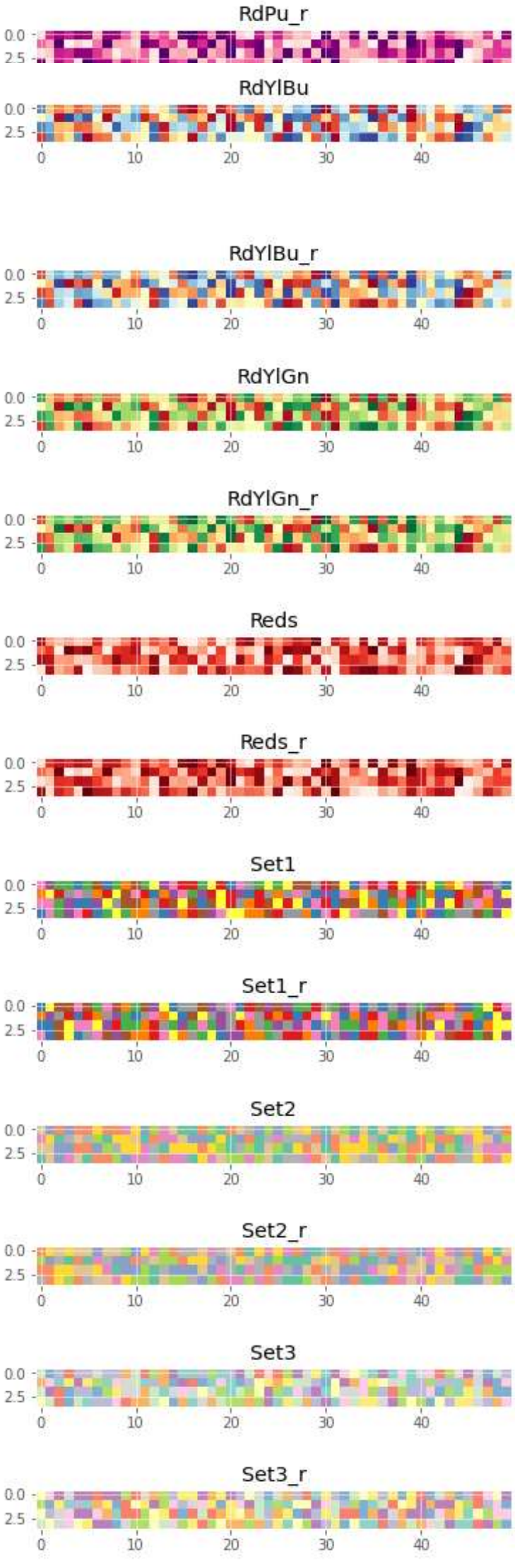


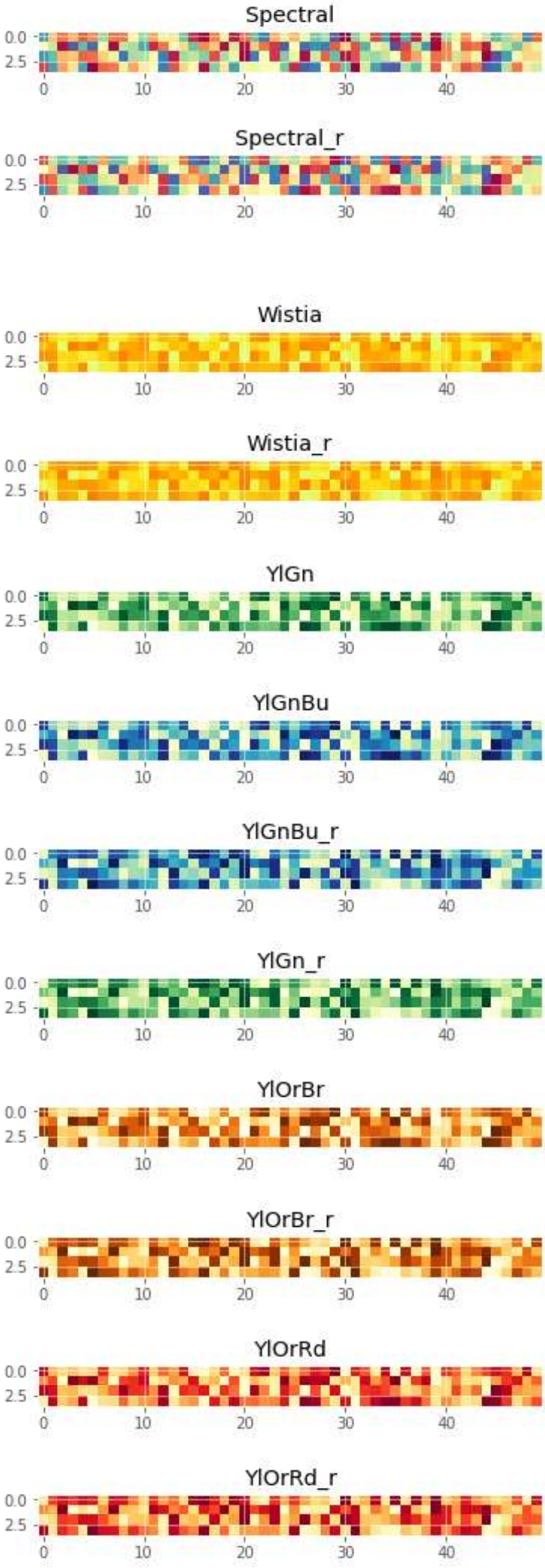
RdGy_r



RdPu




RdPu_r
RdYlBu
RdYlBu_r
RdYlGn
RdYlGn_r
Reds
Reds_r
Set1
Set1_r
Set2
Set2_r
Set3
Set3_r
0.0
2.5
0
10
20
30
40


Spectral
Spectral_r
Wistia
Wistia_r
YlGn
YlGnBu
YlGnBu_r
YlGn_r
YlOrBr
YlOrBr_r
YlOrRd
YlOrRd_r
0.0
2.5
0
10
20
30
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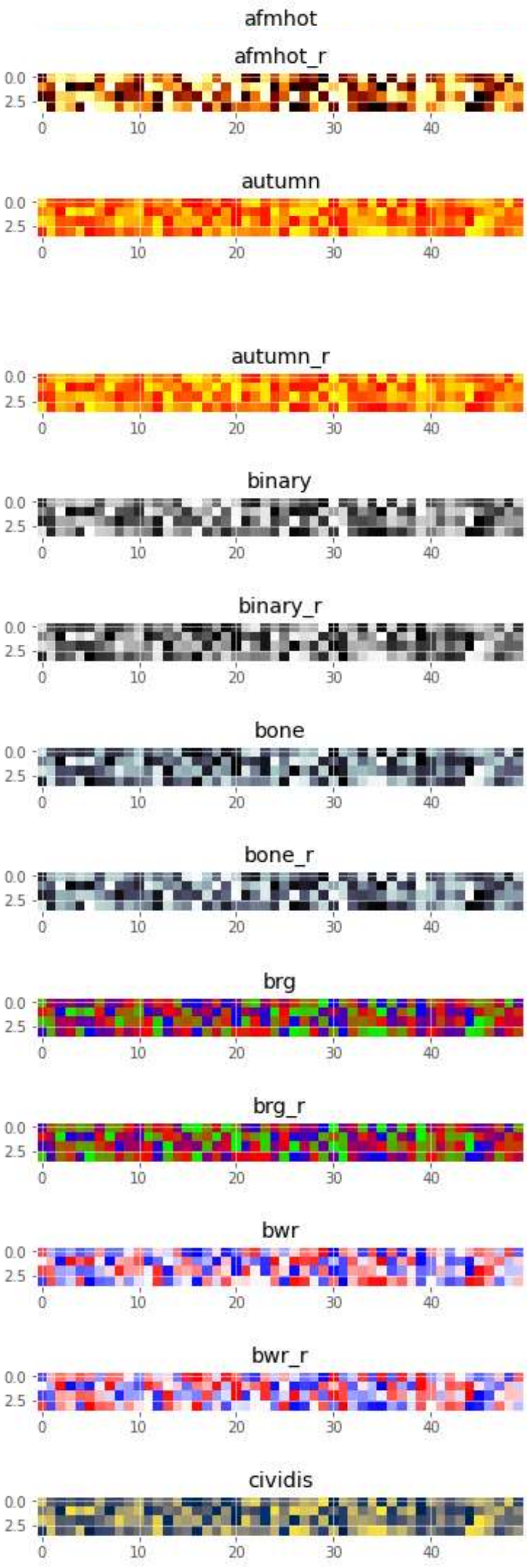
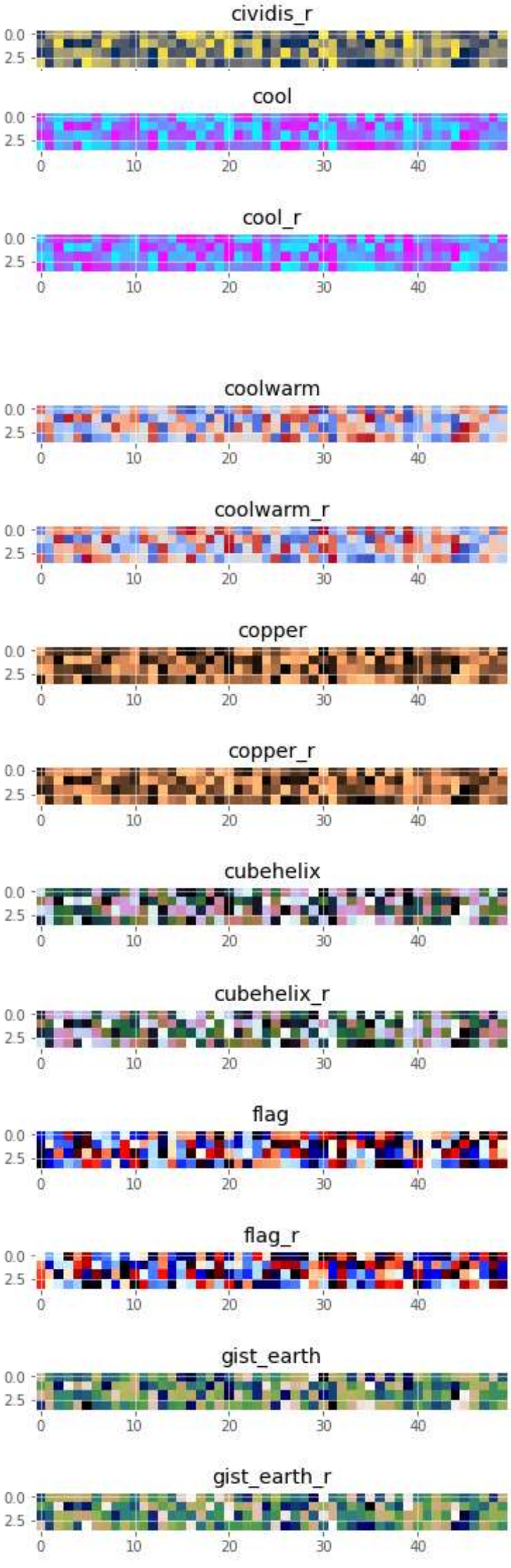

afmhot
afmhot_r
autumn
autumn_r
binary
binary_r
bone
bone_r
brg
brg_r
bwr
bwr_r
cividis
0.0
2.5
0
10
20
30
40


cividis_r
cool
cool_r
coolwarm
coolwarm_r
copper
copper_r
cubehelix
cubehelix_r
flag
flag_r
gist_earth
gist_earth_r
0.0
2.5
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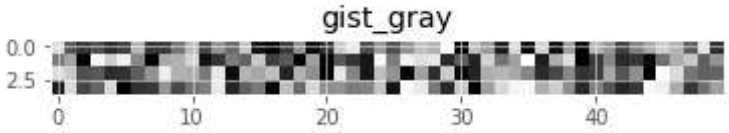
20
30
40


gist_gray
0.0
2.5
0
10
20
30
40

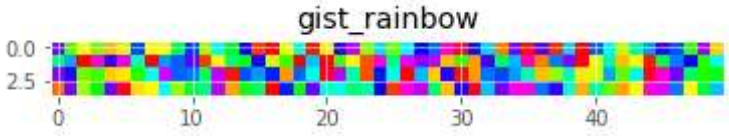

gist_gray_r
0.0
2.5
0
10
20
30
40


gist_heat
0.0
2.5
0
10
20
30
40


gist_heat_r
0.0
2.5
0
10
20
30
40


gist_ncar
0.0
2.5
0
10
20
30
40


gist_ncar_r
0.0
2.5
0
10
20
30
40


gist_rainbow
0.0
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0
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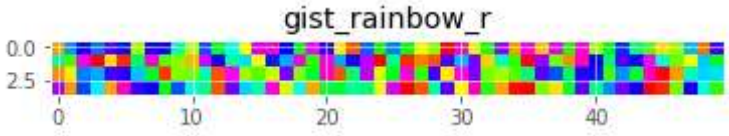
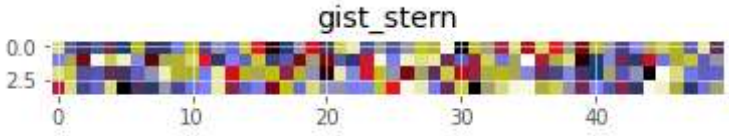
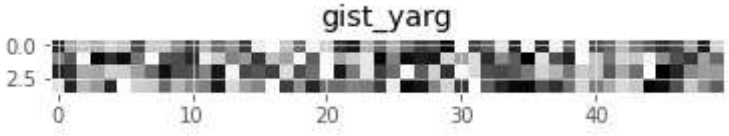

gist_rainbow_r
0.0
2.5
0
10
20
30
40


gist_stern
0.0
2.5
0
10
20
30
40


gist_stern_r
0.0
2.5
0
10
20
30
40


gist_yarg
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gist_yarg_r
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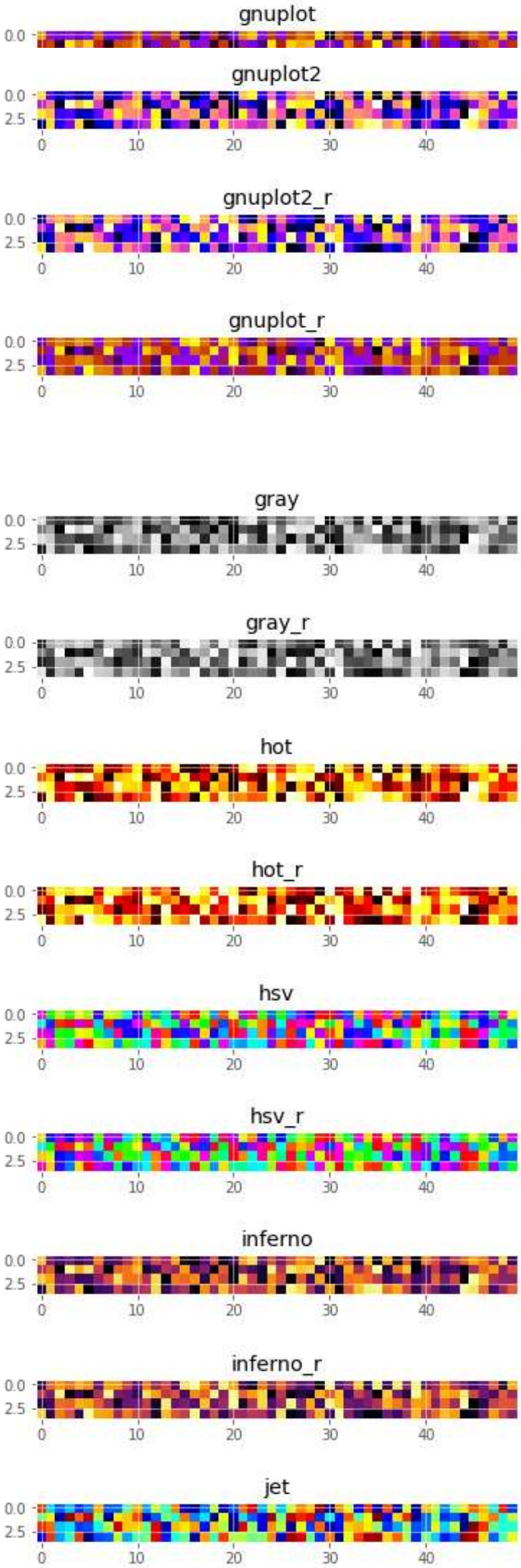
gnuplot
gnuplot2
gnuplot2_r
gnuplot_r
gray
gray_r
hot
hot_r
hsv
hsv_r
inferno
inferno_r
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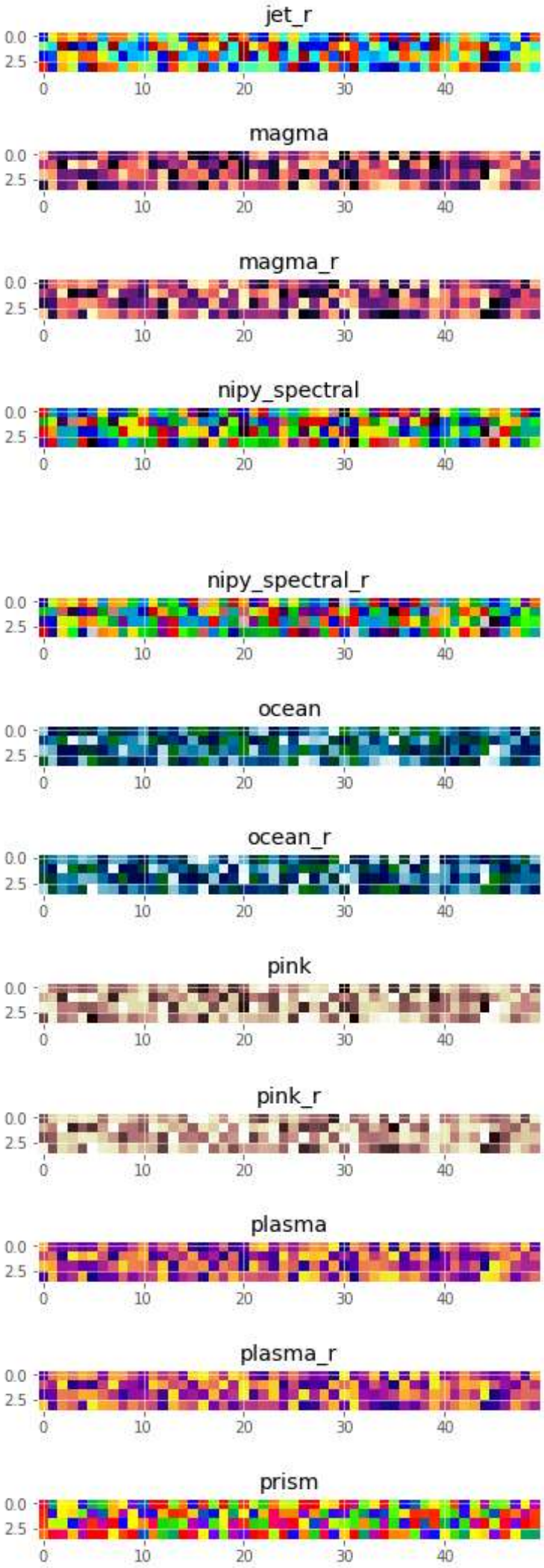
jet_r
magma
magma_r
nipy_spectral
nipy_spectral_r
ocean
ocean_r
pink
pink_r
plasma
plasma_r
prism
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2.5
0
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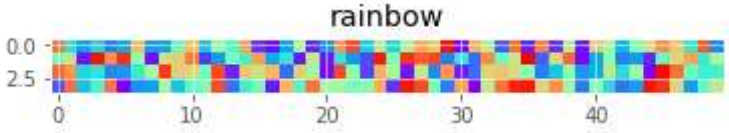
20
30
40


prism_r


rainbow
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10
20
30
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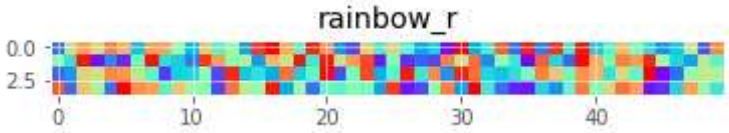
rainbow_r
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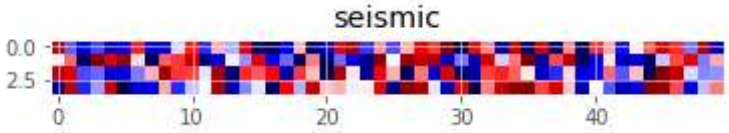
seismic
0.0
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10
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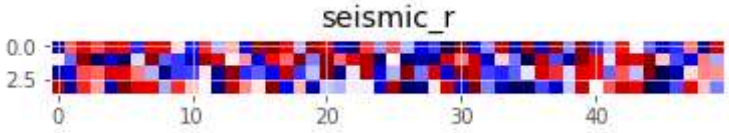
seismic_r
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2.5
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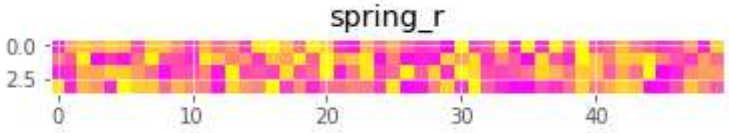
10
20
30
40


spring
0.0
2.5
0
10
20
30
40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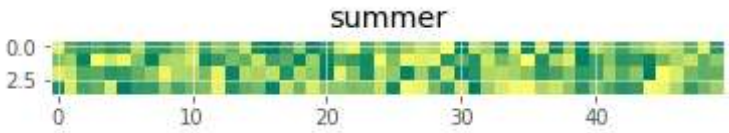
30
40


summer
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2.5
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10
20
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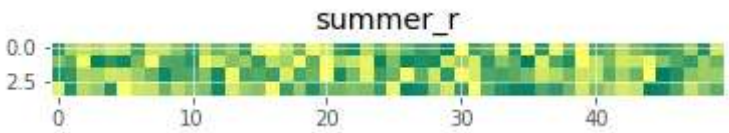
summer_r
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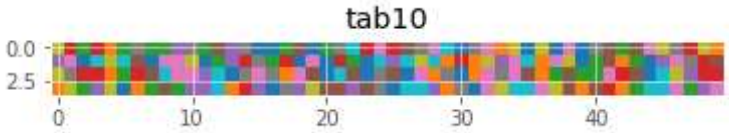
tab10
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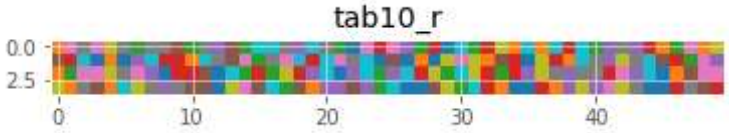
tab10_r
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30
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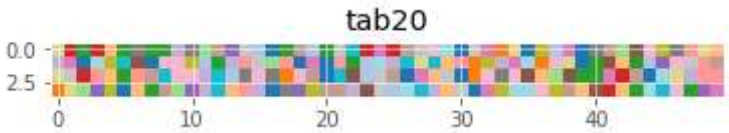
tab20
0.0
2.5
0
10
20
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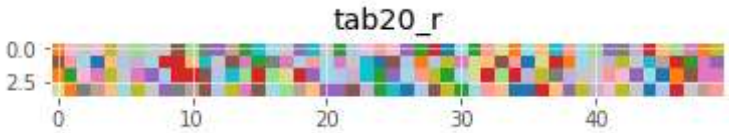
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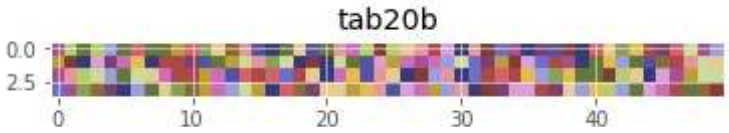
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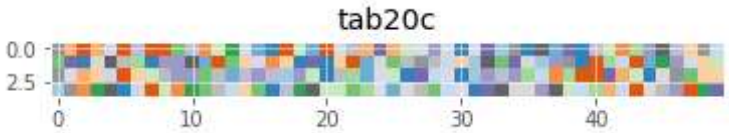
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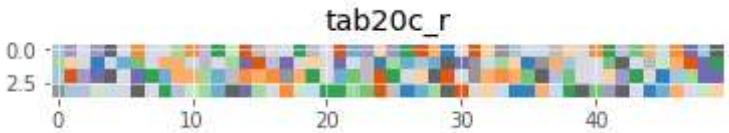
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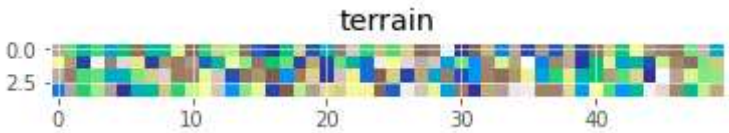
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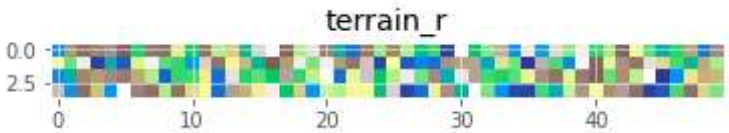
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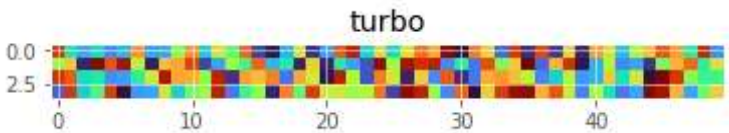
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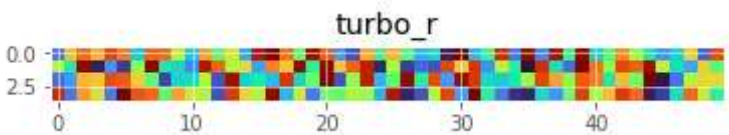
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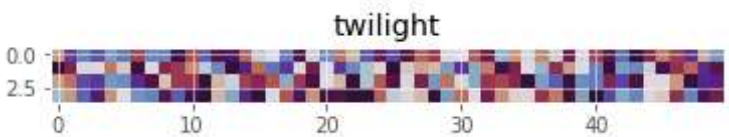
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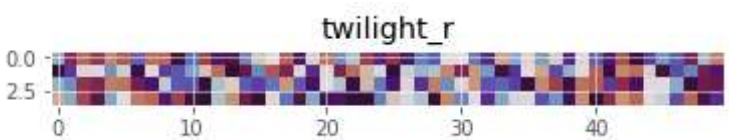
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twilight_shifted
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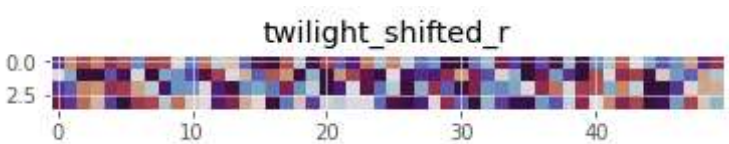
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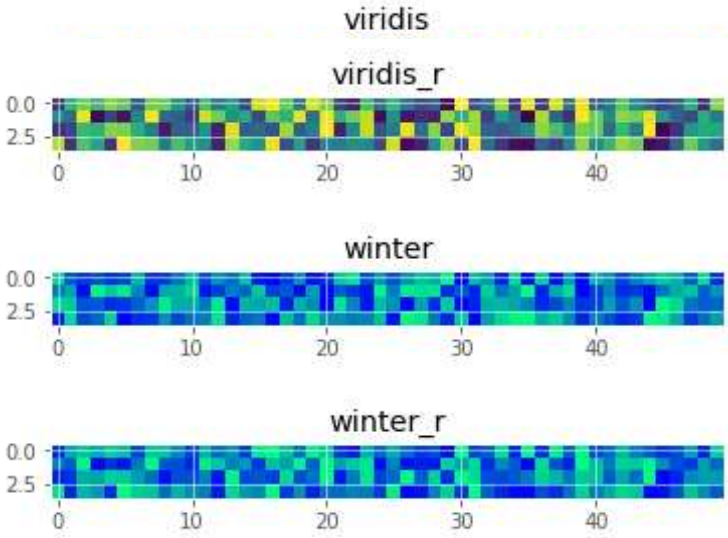
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