

fig_color_18S

May 13, 2020

0.0.1 Fig color 18S (Fig 2)

- Read in the structural positions of the probe target sites and write a file for Ribovision in order to make Fig. 2

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[1]: #Imports
import sys
import pandas as pd
import matplotlib.pyplot as plt
import os
import gffutils
import seaborn as sns
import numpy as np
import scipy.stats

sys.path.append('../scripts/')
from plot_helpers import *

%matplotlib inline
%load_ext autoreload
%autoreload 2
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[2]: #Make outdir and load the data
outdir = '../figures/F2/'
os.makedirs(outdir, exist_ok = True)
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[3]: #Assign colors to the structure based on no probe, one probe, overlapping probes
len_target = 1995
target_vals = np.array([0]*len_target)

data_file = '../figures/F1/TableS1_18S_candidate_properties.csv'
data_df = pd.read_csv(data_file, index_col = 'probe_num')
short_probe_df = data_df.loc[1:30].copy()
short_probe_df['py_struc_start'] = short_probe_df['structure_start'] - 1
short_probe_df.sort_values('structure_start', inplace = True)

#Try the one ahead and the one behind together
l = short_probe_df[['py_struc_start', 'structure_end']].values
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probe_vals = [range(*i) for i in l]

#Give even probes score of 1 and even probes a score of 10.
#Overlapping regions will therefore have a score of 11.
for p in range(0, len(probe_vals)):
    if p%2 == 0:
        target_vals[probe_vals[p]] += 1
    else:
        target_vals[probe_vals[p]] += 10

```

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[4]: #Map the regions to specified colors and write the ribovision outfile
#http://apollo.chemistry.gatech.edu/RiboVision/
#http://apollo.chemistry.gatech.edu/RiboVision/Documentation/UserDataTutorial1.
    ↪html
#colors can take hex codes except for the following
#"#000000" or "#858585"
#0 - gray
#1 - wine
#2 - indigo
#11 - olive
color_dict = {0: color_dict['grey'], 1: color_dict['wine'],
              10: color_dict['indigo'], 11: color_dict['olive']}

colors = [color_dict[i] for i in target_vals]
residues = ['18S:%s' % i for i in range(1, len_target + 1)]
df = pd.DataFrame({'ColorCol': colors, 'resNum': residues})
df.to_csv(os.path.join(outdir, 'ribovision_positions.csv'))

```