example

December 22, 2025

1 yabplot example use

work-in-progress examples of plotting data on cortical surfaces, subcortical structures, and white matter tracts

1.0.1 subcortical plots

```
[1]: from yabplot import plot_subcortical

     print('\nsubcortical brainnetome-sc atlas, with default lighting and all views:
       ↪')
     p = plot_subcortical(atlas='brainnetome_sc')

     print('\nsubcortical aseg atlas, with sculpted lighting:')
     p = plot_subcortical(atlas='aseg', style='sculpted', figsize=(1000, 300),
                          views=['left_lateral', 'left_medial', 'superior',
       ↪'anterior'])

     print('\nsubcortical aseg atlas with data, with matte lighting:')
     data = {'Left_Hippocampus': 0.6, 'Left_Amygdala': -0.2,
             'Left_Putamen': 0.9, 'Left_Thalamus': -0.9}
     p = plot_subcortical(data=data, atlas='aseg', style='matte', figsize=(1000,
       ↪300),
                          views=['left_lateral', 'left_medial', 'superior',
       ↪'anterior'])

     print('\nsubcortical aseg atlas with data with modified brainmesh and in 2D:')
     p = plot_subcortical(data=data, atlas='aseg', style='flat', figsize=(1000, 300),
                          views=['left_lateral', 'left_medial', 'superior',
       ↪'anterior'],
                          bmesh_color='gray', bmesh_alpha=0.05)
```
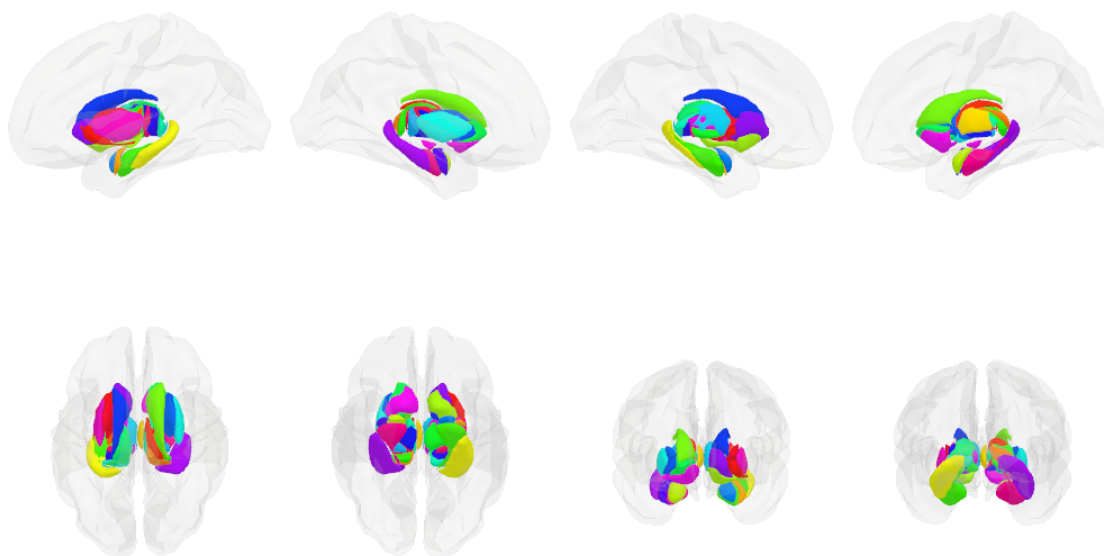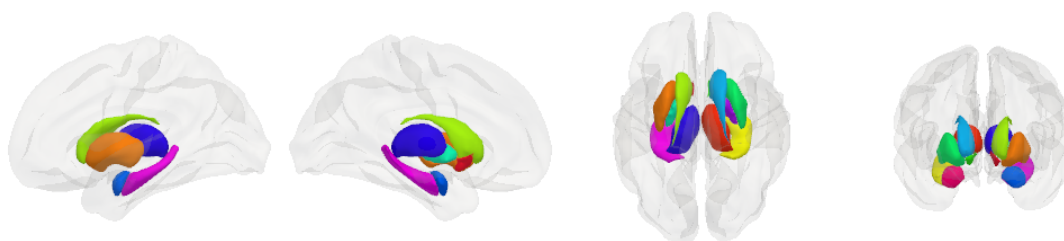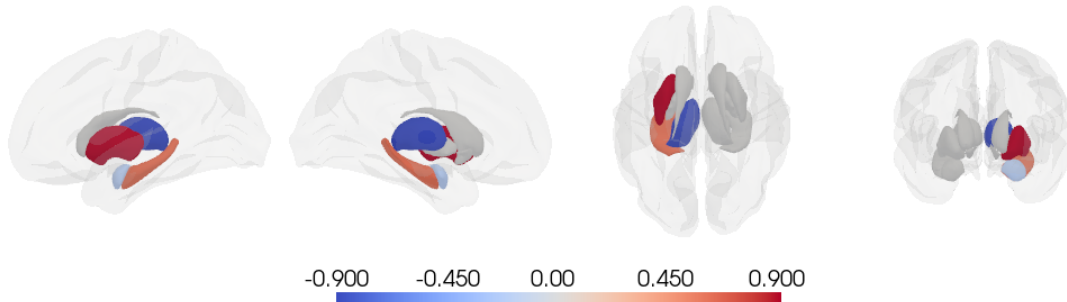
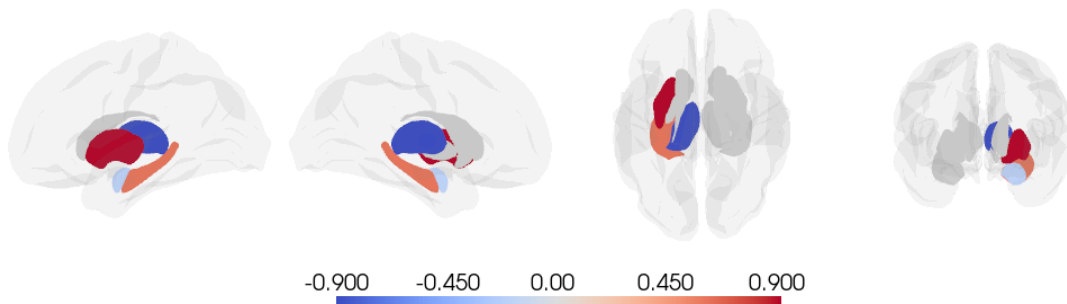subcortical brainnetome-sc atlas, with default lighting and all views:

subcortical aseg atlas, with sculpted lighting:

subcortical aseg atlas with data, with matte lighting:

-0.900   -0.450   0.00   0.450   0.900

subcortical aseg atlas with data with modified brainmesh and in 2D:

-0.900   -0.450   0.00   0.450   0.900

1.0.2 white matter tract plots

```
[2]: from yabplot import plot_tracts

print('\nxtract atlas, with default lighting, custom brainmesh, custom 4x4␣
  ↪layout and streamline orientation coloring:')
p = plot_tracts(atlas='xtract_tiny', layout=(2, 2), zoom=1.4, style='default',
                views=['left_lateral', 'left_medial', 'superior', 'anterior'],
                bmesh_type='fsaverage', orientation_coloring=True)

print('\nxtract atlas, with matte lighting, custom brainmesh, custom 4x4 layout␣
  ↪and colored by tracts:')
p = plot_tracts(atlas='xtract_tiny', layout=(2, 2), zoom=1.4, style='matte',
                views=['left_lateral', 'left_medial', 'superior', 'anterior'],
                bmesh_type='fsaverage', )

print('\nxtract atlas with data, with matte lighting, custom brainmesh and␣
  ↪custom 4x4 layout:')
data = {
```
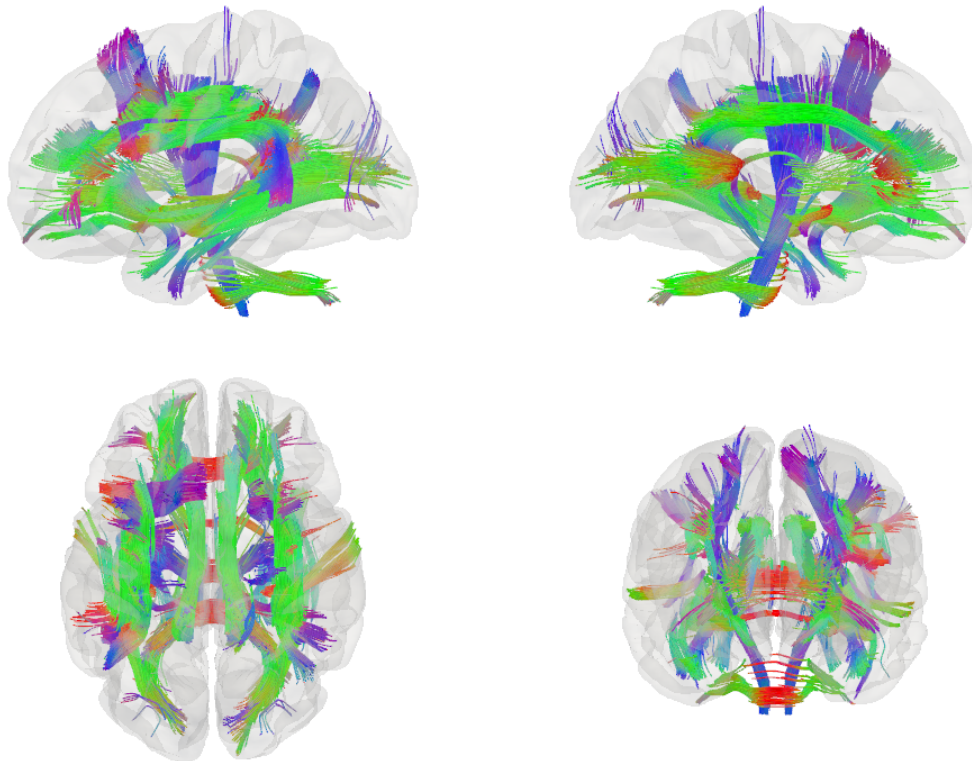
```
     'FMaj': 0.7, 'FMin': 0.9, 'CRT_L': 0.9, 'IFOF_L': -0.5, 'ILF_L': -0.9,
     'UF_L': 0.2, 'ATR_L': 0.5, 'SLF2_L': 0.2, 'SLF3_L': 0.2,
}
p = plot_tracts(atlas='xtract_tiny', data=data, layout=(2, 2), zoom=1.4,␣
 ↪style='matte',
                views=['left_lateral', 'left_medial', 'superior', 'anterior'],
                bmesh_type='fsaverage', )

print('\nxtract atlas with data, with matte lighting, custom brainmesh and␣
 ↪interactive display:')
p = plot_tracts(atlas='xtract_tiny', data=data, layout=(1, 1), zoom=1.4,␣
 ↪style='matte',
                bmesh_type='fsaverage', views=['superior'],␣
 ↪display_type='interactive')
```
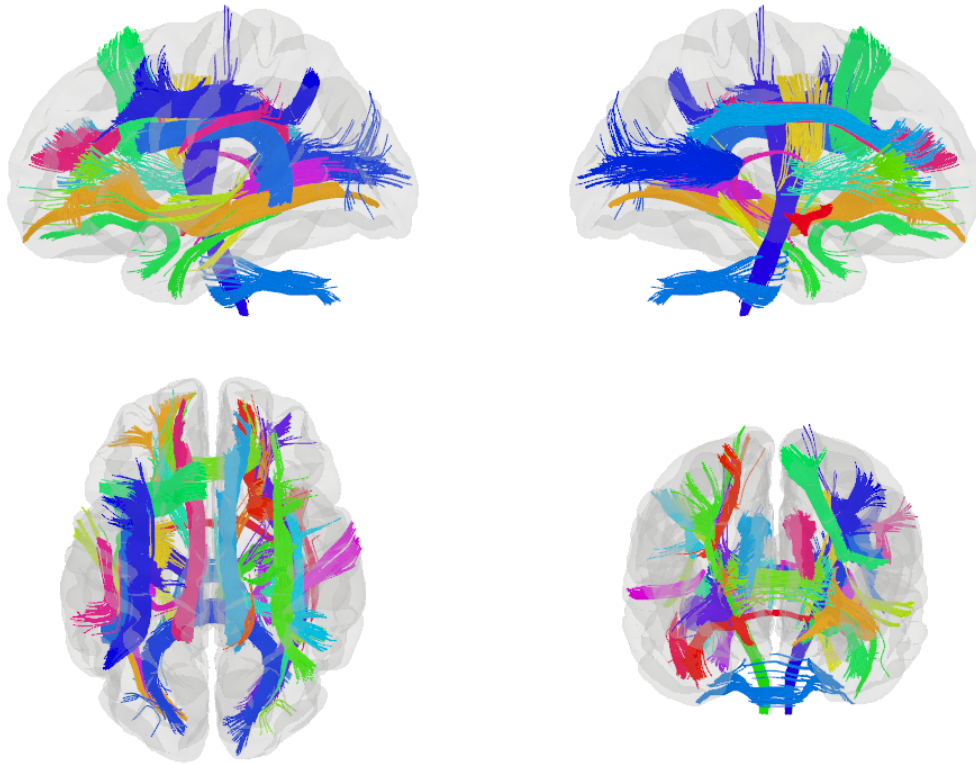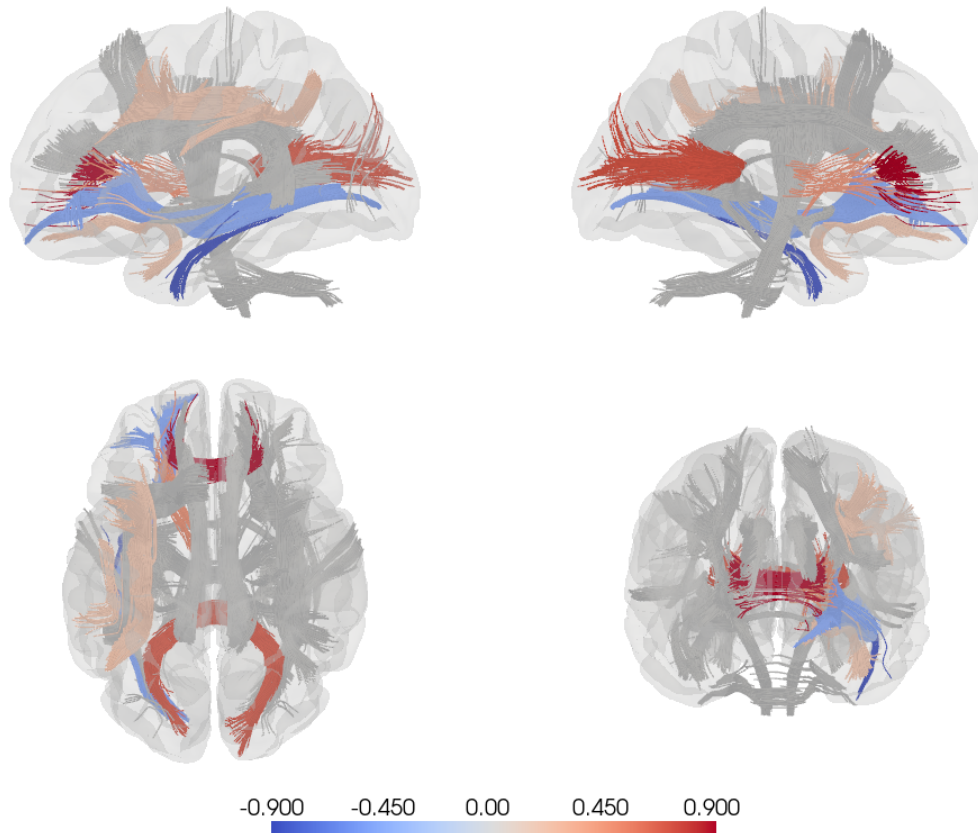
xtract atlas, with default lighting, custom brainmesh, custom 4x4 layout and
streamline orientation coloring:

xtract atlas, with matte lighting, custom brainmesh, custom 4x4 layout and colored by tracts:

xtract atlas with data, with matte lighting, custom brainmesh and custom 4x4 layout:

xtract atlas with data, with matte lighting, custom brainmesh and interactive display:

```
Widget(value='<iframe src="http://localhost:52664/index.html?
    ↪ui=P_0x16a70b6d0_7&reconnect=auto" class="pyvista…
```

1.0.3 cortical plots

```python
import numpy as np
import pandas as pd
from yabplot import plot_cortical

print('\naparc atlas, with default lighting:')
plot_cortical(atlas='aparc', style='default')

print('\nschaefer_400 atlas, with default lighting:')
plot_cortical(atlas='schaefer_400', style='default')

print('\nschaefer_1000 atlas, with sculpted lighting:')
```
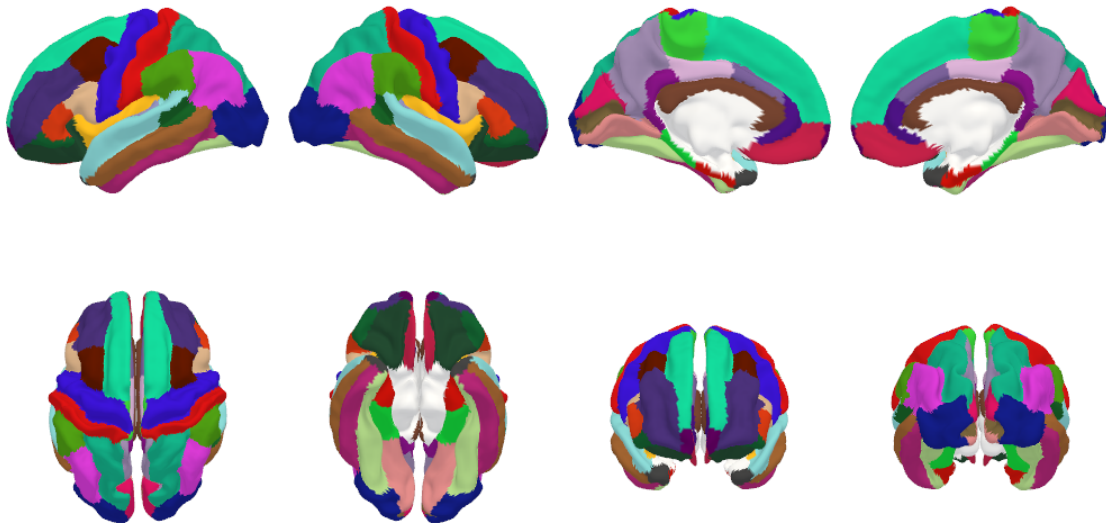
```
plot_cortical(atlas='schaefer_1000', style='sculpted')

print('\nschaefer_1000 atlas with data, with sculpted lighting:')
d_gr = pd.read_csv('/Users/to8050an/Documents/data/margulies_gradients.csv')
p = plot_cortical(data=np.array(d_gr['gradient1']), atlas='schaefer_1000')

print('\nschaefer_1000 atlas with data, with glossy lighting, custom minmax and␣
 ↪interactive:')
p = plot_cortical(data=np.array(d_gr['gradient1']), atlas='schaefer_1000',
                  views=['superior'], layout=(1,1), display_type='interactive',
                  vminmax=[-3, 3], style='glossy')
```
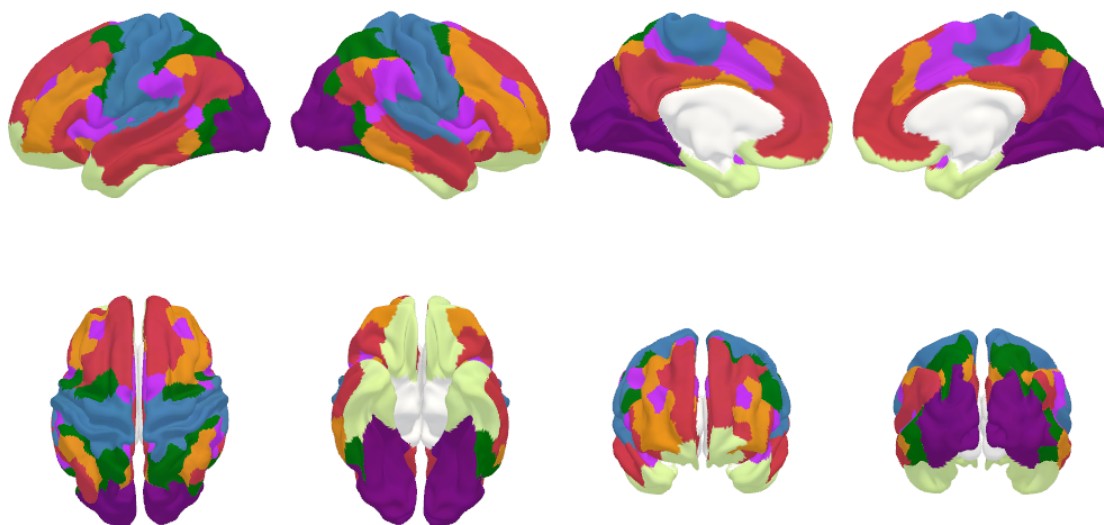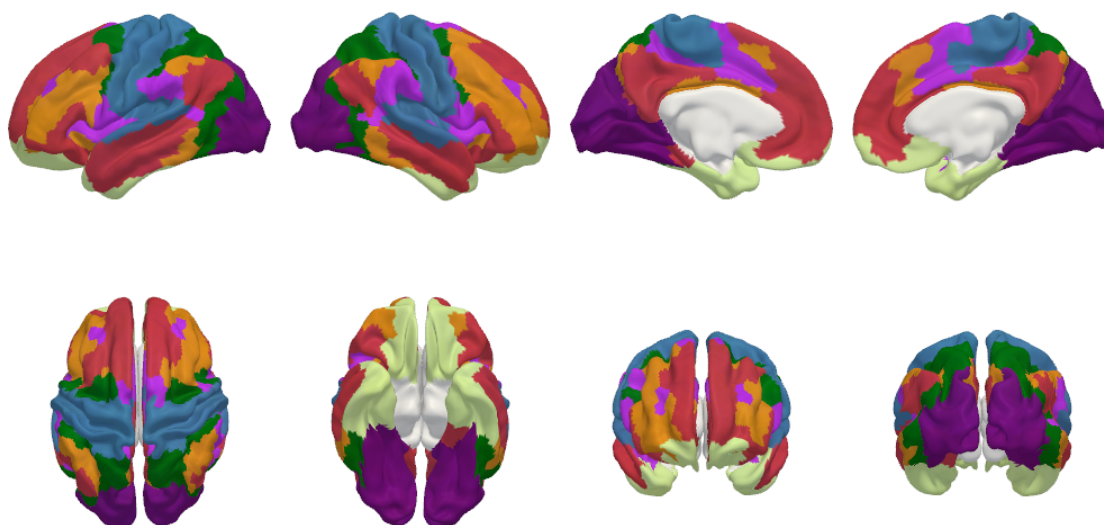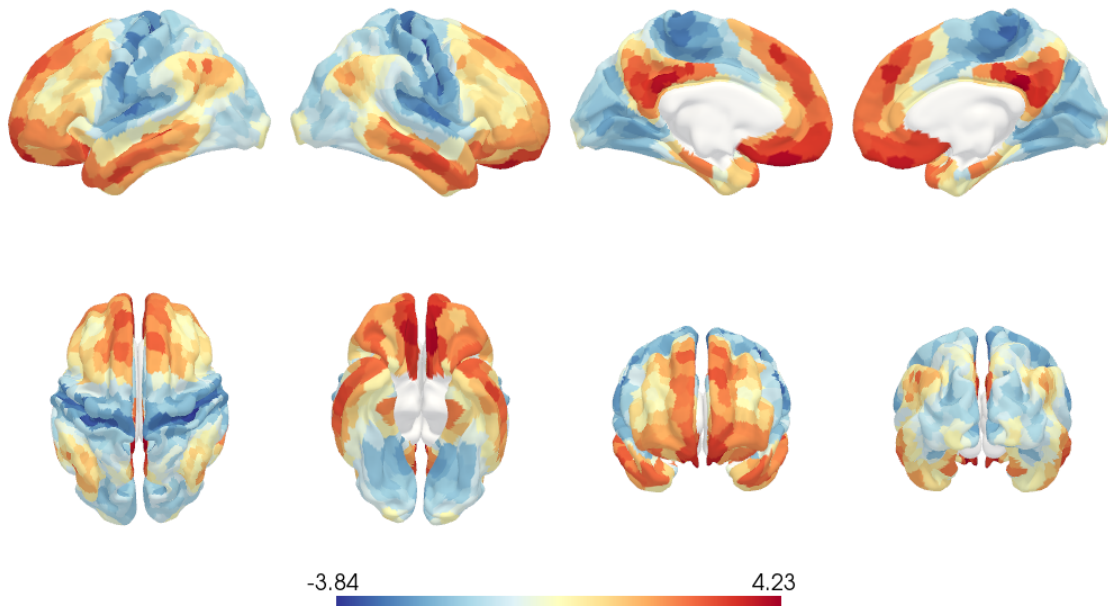
aparc atlas, with default lighting:

schaefer_400 atlas, with default lighting:

schaefer_1000 atlas, with sculpted lighting:

schaefer_1000 atlas with data, with sculpted lighting:


```
-3.84                                          4.23
```

schaefer_1000 atlas with data, with glossy lighting, custom minmax and interactive:

Widget(value='<iframe src="http://localhost:52664/index.html?
  ↪ui=P_0x368d15250_12&reconnect=auto" class="pyvist…

[ ]: