Vue 3D de l'électronégativité

<sxh python; title : periodic_table_electronegativity.py> #!/usr/bin/env python # -*- coding: utf-8 -*- “”” Periodical table 3D view of electronegativity ”””

from mpl_toolkits.mplot3d import Axes3D import matplotlib.pyplot as plt import numpy as np

data = np.array([[2.2,1,0.9,0.8,0.8,0.8,0.7], [0,1.6,1.3,1,1,0.9,0.9], [0,0,0,1.4,1.2,1.3,0], [0,0,0,1.5,1.3,1.3,0], [0,0,0,1.6,1.6,1.5,0], [0,0,0,1.6,2.2,2.4,0], [0,0,0,1.6,1.9,1.9,0], [0,0,0,1.8,2.2,2.2,0], [0,0,0,1.9,2.3,2.2,0], [0,0,0,1.8,2.2,2.3,0], [0,0,0,1.9,1.9,2.5,0], [0,0,0,1.6,1.7,2,0], [0,2,1.6,1.8,1.8,1.6,0], [0,2.5,1.9,2,1.8,1.8,0], [0,3,2.2,2.2,2,2,0], [0,3.5,2.6,2.5,2.1,2,0], [0,4,3.2,3,2.7,2.2,0], [0,0,0,0,0,0,0],])

column_names = ['1','2','3','4','5','6','7'] row_names = ['IA','IIA','IIIB','IVB','VB','VIB','VIIB','VIII','VIII','VIII','IB','IIB','IIIA','IVA','VA','VIA','VIIA','VIIIA']

fig = plt.figure() ax = Axes3D(fig)

lx= len(data[0]) # Work out matrix dimensions ly= len(data[:,0]) xpos = np.arange(0,lx,1) # Set up a mesh of positions ypos = np.arange(0,ly,1) xpos, ypos = np.meshgrid(xpos+0.5, ypos+0.4)

xpos = xpos.flatten() # Convert positions to 1D array ypos = ypos.flatten() zpos = np.zeros(lx*ly)

dx = 0.5 * np.ones_like(zpos) dy = dx.copy() dz = data.flatten()

ax.bar3d(xpos,ypos,zpos, dx, dy, dz, color='b')

#sh() ax.w_xaxis.set_ticklabels(column_names) ax.w_yaxis.set_ticklabels(row_names) ax.set_xlabel('periode') ax.set_ylabel('Famille') ax.set_zlabel('Electronegativite')

plt.show() </sxh>