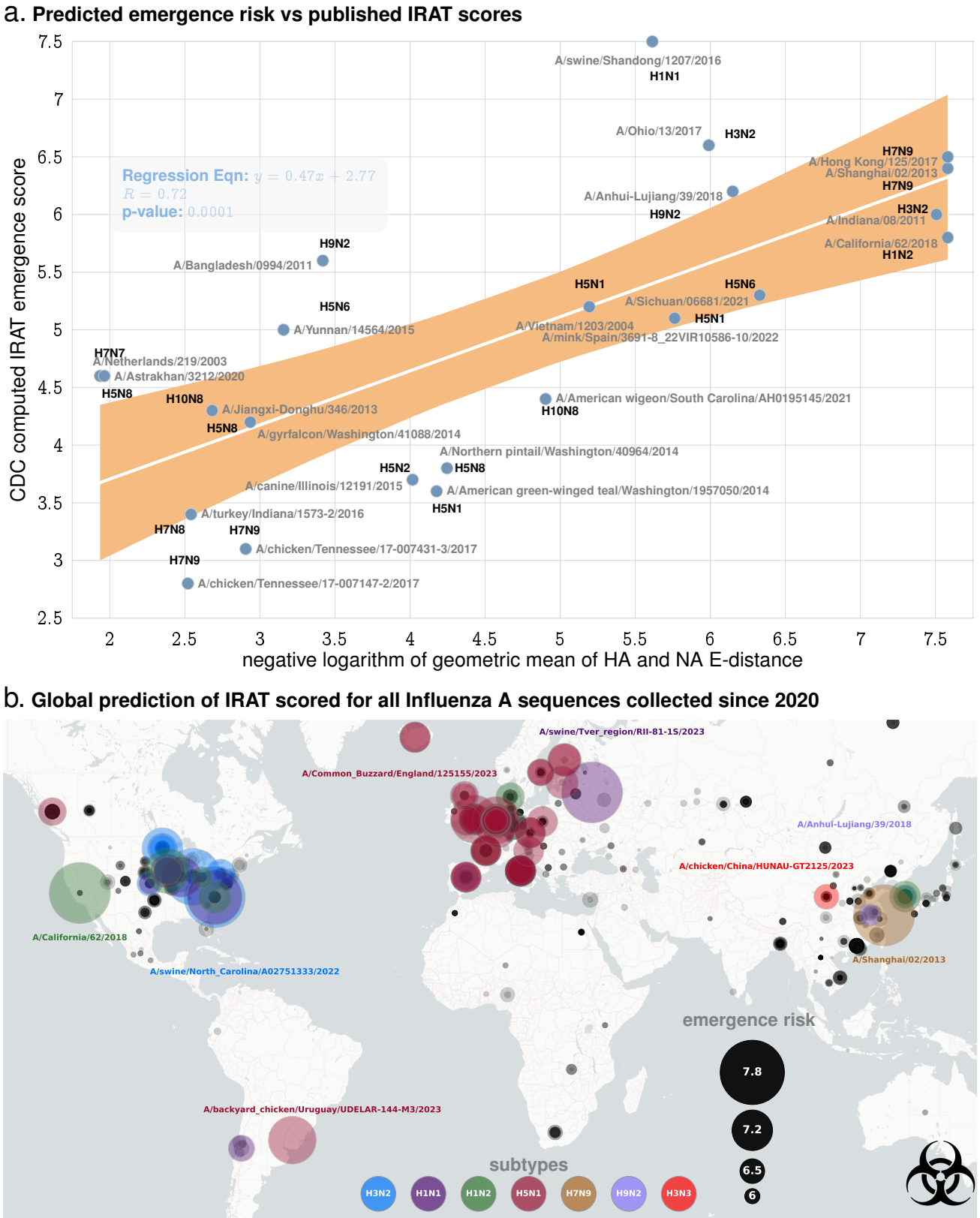
a. Predicted emergence risk vs published IRAT scores
Regression Eqn: $y = 0.47x + 2.77$
$R = 0.72$
p-value: 0.0001
CDC computed IRAT emergence score
negative logarithm of geometric mean of HA and NA E-distance
A/swine/Shandong/1207/2016
H1N1
A/Ohio/13/2017
H3N2
H7N9
A/Hong Kong/125/2017
A/Shanghai/02/2013
H7N9
A/Anhui-Lujiang/39/2018
H9N2
H3N2
A/Indiana/08/2011
A/California/62/2018
H1N2
H9N2
A/Bangladesh/0994/2011
H5N1
H5N6
A/Sichuan/06681/2021
H5N6
A/Yunnan/14564/2015
A/Vietnam/1203/2004
H5N1
A/mink/Spain/3691-8_22VIR10586-10/2022
H7N7
A/Netherlands/219/2003
A/Astrakhan/3212/2020
H5N8
H10N8
A/Jiangxi-Donghu/346/2013
H5N8
A/gyrfalcon/Washington/41088/2014
A/American wigeon/South Carolina/AH0195145/2021
H10N8
A/Northern pintail/Washington/40964/2014
H5N2
H5N8
A/canine/Illinois/12191/2015
A/American green-winged teal/Washington/1957050/2014
H5N1
A/turkey/Indiana/1573-2/2016
H7N8
H7N9
A/chicken/Tennessee/17-007431-3/2017
H7N9
A/chicken/Tennessee/17-007147-2/2017
b. Global prediction of IRAT scored for all Influenza A sequences collected since 2020
A/swine/Tver_region/RII-81-1S/2023
A/Common_Buzzard/England/125155/2023
A/Anhui-Lujiang/39/2018
A/chicken/China/HUNAU-GT2125/2023
A/California/62/2018
A/swine/North_Carolina/A02751333/2022
A/Shanghai/02/2013
A/backyard_chicken/Uruguay/UDELAR-144-M3/2023
emergence risk
7.8
7.2
6.5
6
subtypes
H3N2
H1N1
H1N2
H5N1
H7N9
H9N2
H3N3