

EBC Notebook 08_30
Maryam Yamadi

Amino Acid Stock Solutions and solutions with Au:AA molar ratios of 20:1, 80:1, and 160:1

1. Isoleucine (Amphipathic) Stock Solution (MW=121.2g/mol)

$$250\mu\text{M Ile} = 2.5 \times 10^{-4}\text{M Ile}$$

$$(131.2\text{g/mol}) * (2.5 \times 10^{-4}\text{M}) * (0.1\text{L}) = \mathbf{0.00328\text{g Ile in 100mL H}_2\text{O}}$$

$$\text{-20:1 } [(1\text{mL Au}) / (20)] * 10 = \mathbf{0.5\text{g Amino Acid in 8.5mL H}_2\text{O}}$$

$$\text{-80:1 } [(1\text{mL Au}) / (80)] * 10 = \mathbf{0.125\text{g Amino Acid in 8.875mL H}_2\text{O}}$$

$$\text{-160:1 } [(1\text{mL Au}) / (160)] * 10 = \mathbf{0.0625\text{ Amino Acid in 8.9375mL H}_2\text{O}}$$

2. Phenylalanine (Aromatic) Stock Solution (MW=165.19g/mol)

$$250\mu\text{M Phe} = 2.5 \times 10^{-4}\text{M Phe}$$

$$(165.19\text{g/mol}) * (2.5 \times 10^{-4}\text{M}) * (0.1\text{L}) = \mathbf{0.00412975\text{g Phe in 100mL H}_2\text{O}}$$

-20:1 (see #1 calculations)

-80:1 (see #1 calculations)

-160:1 (see #1 calculations)

3. Arginine (Amine) Stock Solution (MW= 174.2g/mol)

$$250\mu\text{M Arg} = 2.5 \times 10^{-4}\text{M Arg}$$

$$(174.2\text{g/mol}) * (2.5 \times 10^{-4}\text{M}) * (0.1\text{L}) = \mathbf{0.004355\text{g Arg in 100mL H}_2\text{O}}$$

-20:1 (see #1 calculations)

-80:1 (see #1 calculations)

-160:1 (see #1 calculations)

pH Test of Amino Acid Solutions Before Heat

pH values	stock	20before	20after	80before	80after	160before	160after
phenylalanin	7.755	3.528		3.382		3.397	
arginine	9.361	3.434		3.355		3.368	
Isoleucine	7.137	3.345		3.408		3.347	