

**Quiz 15****NAME:** \_\_\_\_\_

Imagine that you have prepared a crude lysate sample from *E.coli* cells that contains a mixture of six proteins (1, 2, 3, 4, 5, and  $\beta$ -galactosidase). Your goal is to obtain purified  $\beta$ -galactosidase. Below is a table of protein characteristics:

Protein	Concentration of ammonium sulfate (AS) required for precipitation	Molecular Weight (kDa)	Isoelectric point (pI)
1	45%	38	3.7
2	80%	22	4.8
3	65%	4	5.3
4	20%	75	6.8
5	30%	55	9.50
$\beta$ -galactosidase	45%	115	5.3

1. Draw a sketch of the expected SDS-PAGE result if lanes were loaded with the following samples:
  - Lane 1: Protein marker (10 kDa; 25 kDa; 50 kDa; 75 kDa; 100 kDa)
  - Lane 2: Crude lysate
  - Lane 3: Anion exchange peak of  $\beta$ -galactosidase
2. Indicate the polarity of the applied electric field on your sketch.