p- dimensional electrophoresis

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The letter "P" indicates π , the mathematical transcendental (and thus irrational) constant $\pi \approx 3.14159...$, the ratio of a circle's circumference to its diameter in Euclidean geometry

2-Dimensional Electrophoresis Based Proteomics: Cartesian method



2-DE LIMITS:





Variability of the migration along the y axis



Proteins with near pl are likely to overlap in the second dimension



RADIAL- TWO DIMENSIONAL ELECTROPHORESIS: 2-PE



RADIAL- TWO DIMENSIONAL ELECTROPHORESIS: 2-PE



RADIAL- TWO DIMENSIONAL ELECTROPHORESIS: 2-PE





Since the protein spots with pl, close but not equal, are moved by divergent lines of force, their **resolution increases during the radial separation** of a factor that is directly proportional to the distance of migration

2-PE: 24 replicate maps



2-DE: 24 replicate maps











2-PE vs 2-DE



POTENTIALS OF 2-PE MAPS







Increase in reproducibility

2

Concentric and divergent lines of force in electric field in 2° dimension



In conclusion...

Advantages of 2-PE vs 2-DE:

Increase in reproducibility

Increase in resolution

