Intellectual Property (Non-confidential)



# Improved running buffers for gel electrophoresis



#### DESCRIPTION

Discovery of electrophoretic separation of biological material has been crucial to biomedical separation research. Electrophoretic has applications in DNA analysis, separation of large DNA fragments, dideoxy sequence analysis and SSCP. Since its discovery, significant improvements have been made in this field including agarose gel electrophoresis, pulsedfield agarose gel electrophoresis, polyacrylamide gel electrophoresis, etc. TAE and TBE are the buffers generally used for electrophoretic analysis of DNA. TAE and TBE buffers have limitations including, low buffering capacity, low solubility which limits its use for long electrophoretic separations.

The present invention is a pK-matched buffer for electrophoretic separation of biological material which results in improved separation and higher resolution. Furthermore, pK-matched buffers provide higher voltage and current stability, lower working concentration, more concentrated stock solutions, and lower current per unit voltage, resulting in less heat generation. These attributes improve gel electrophoresis of separating nucleic acid and polypeptides.

### KEY ASPECTS

- The pK-matched buffers have high resolution and electrophoretical stability
- pK-matched buffers are crucial methods for separating nucleic acids or polypeptides
- pK-matched buffers comprise of CAPSO, ACES, BIS-TRIS, HEPES and triethanolamine.

#### INTELLECTUAL PROPERTY

Title	US Patent Number	Issued
pK-matched running buffers for gel electrophoresis	7,141,153	11-28-2006
pK-matched running buffers for gel electrophoresis	6,582,574	06-24-2003

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