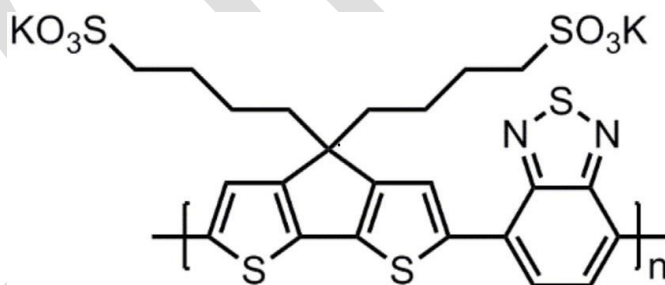


CERTIFICATE OF ANALYSIS

1M Material: OS0319, PCPDTBTSO3K
Application: FOR LABORATORY RESEARCH ONLY
Polymeric electrolyte
Chemical Name: Poly[2,6-(4,4-bis-potassium butanysulfonate-4H-cyclopenta-[2,1-b;3,4-b']-dithiophene)-alt-4,7-(2,1,3-benzothiadiazole)]



Lot number: YY9136
Appearance: Beige –light yellow
NMR analysis: Structure confirmed
Molecular weight (GPC): 25,000 (Mw, PS Standard)
Polydispersity(PDI): 2.2
Solubility: Soluble in water and alcohol,
Better with assistance of acetic acid