

# 日立電子顕微鏡用イオン液体HILEM®

～ 迅速な試料前処理のご提案 ～

Hitachi Ionic liquid HILEM® for Easy Sample Preparation

## ◎ イオン液体を用いた試料前処理法の特長

### Features of sample prep. technique with ionic liquid (IL)

- 蒸気圧がほとんどなく、常温で液体状態の塩であるイオン液体を用いた最新試料作製法  
Latest sample preparation technique by ionic liquid which is an organic salt in a liquid state at ambient temperature has low vapor pressure
- 導電性付与剤、チャージアップ軽減剤として絶縁物の観察に有効  
Useful for observation of non/less-conductive samples by proving conductive material
- 脱水・乾燥処理なしに形態変化を抑制して含水試料を観察可能  
Preservation technique of "hydrated" state morphology without dehydration and drying
- 試料分散剤として利用可能  
Well dispersant technique for (S)TEM imaging

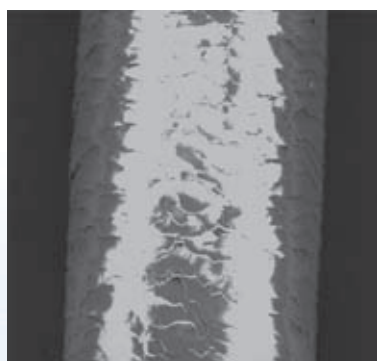


HILEM®

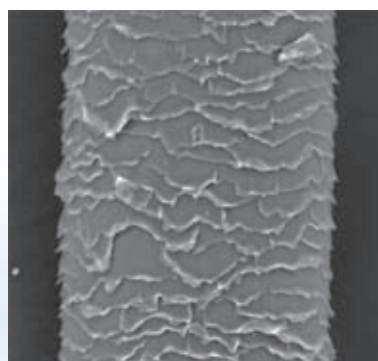


## ◎ 導電付与剤としての応用

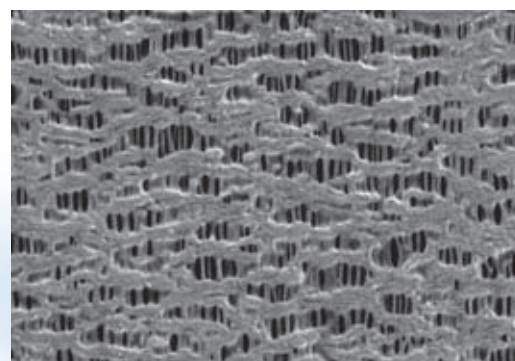
### Application as an antistatic agent



Without IL  
Hair  
20 μm



With hydrophilic IL  
20 μm



Separator  
Instrument : Regulus, Landing Vol. : 100 V, Mag. : x 30 k,  
Sample prep. : 1% Hydrophobic IL treatment

## ◎ 生物試料前処理への応用

### Application in biological sample preparation

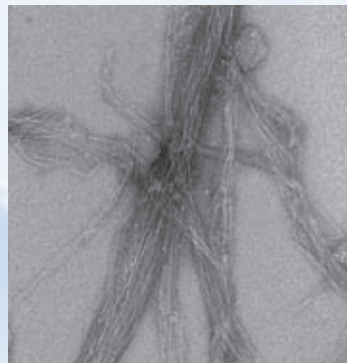


Micro-algae (*Pandorina morum*)

Instrument : SU5000, Acc. Vol. : 2 kV, Mag. : x5 k,  
Signal : SE, Sample prep. : Glutaraldehyde fixation and  
5% Hydrophilic IL treatment Specimen courtesy by  
Noriko Ueki and Ken-ichi Wakabayashi,  
Chemical Resources Laboratory, Tokyo Institute of Technology

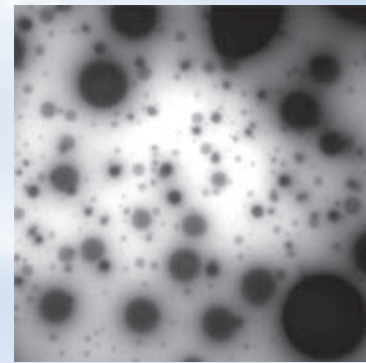
## ◎ 試料分散剤としての利用例

### Application as a specimen dispersant



Cellulose nano-fiber

Instrument : HT7700,  
Acc. Vol. : 120 kV, Mag. : x40 k,  
Sample prep. : 10% Hydrophilic IL treatment with  
3% ammonium molybdate staining



Water repellent spray

Instrument : HT7700,  
Acc. Vol. : 120 kV, Mag. : x1 k,  
Sample prep. : 5% Hydrophobic IL treatment