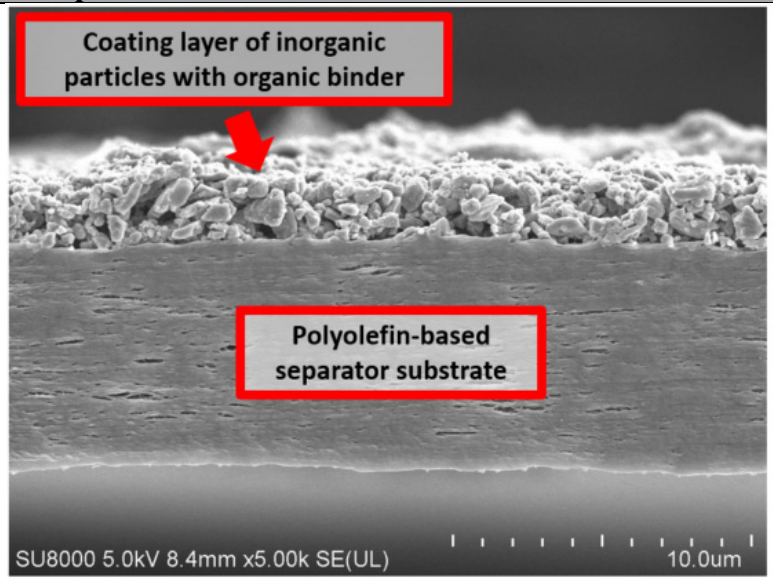
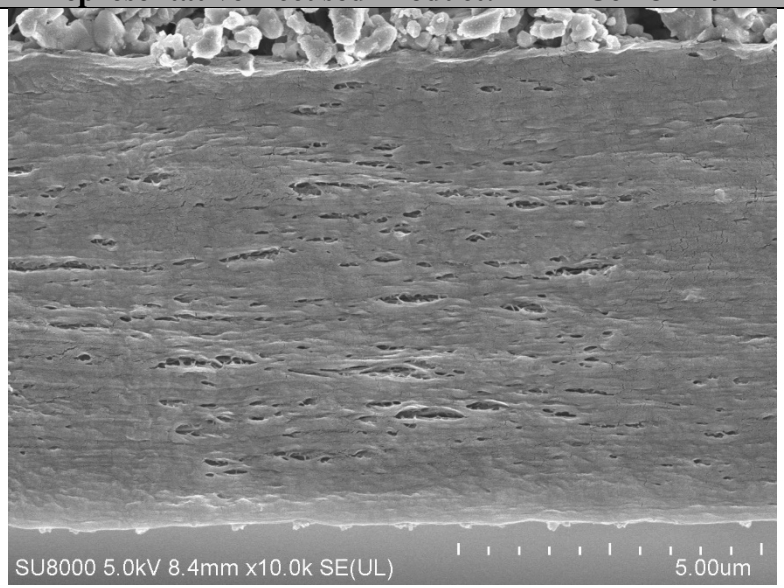
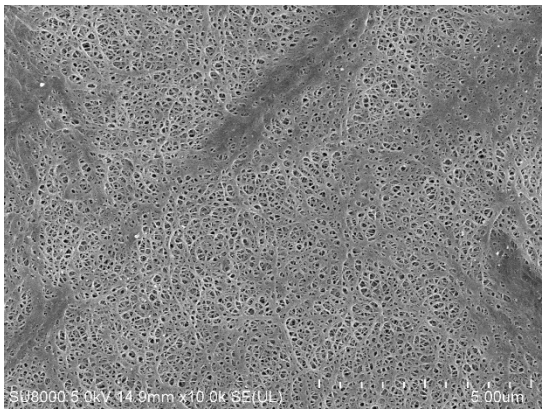
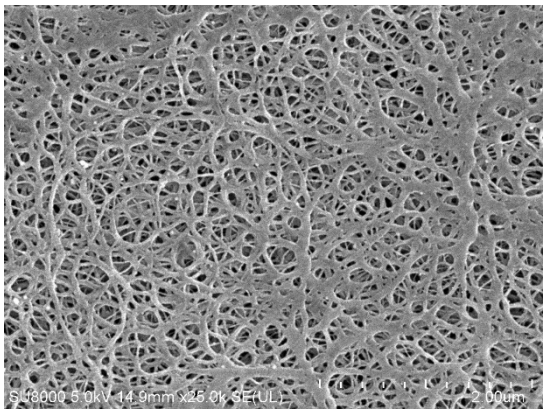
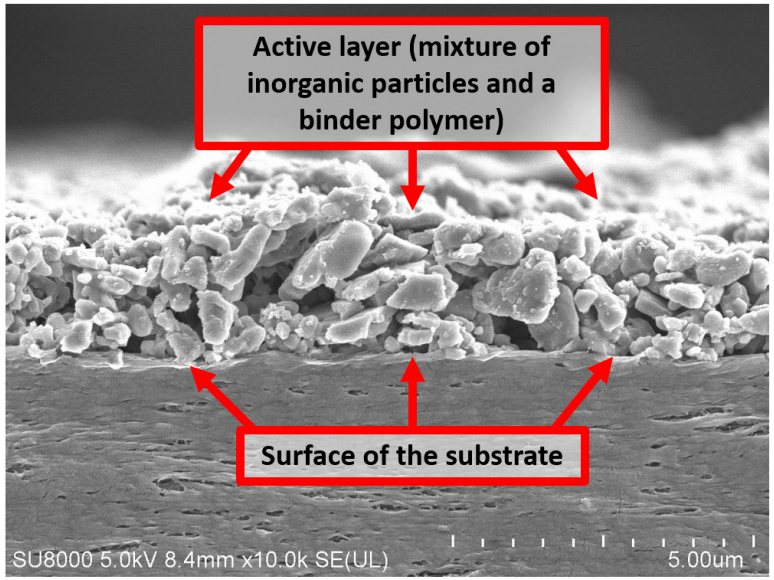
Exhibit 15

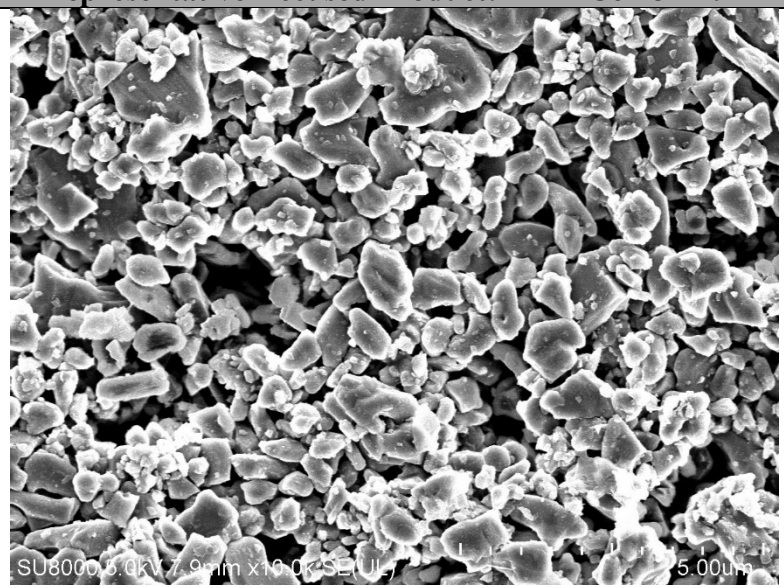
Exemplary Infringement Claim Chart for U.S. Pat. No. 7,638,241 – ATL Cell 844297

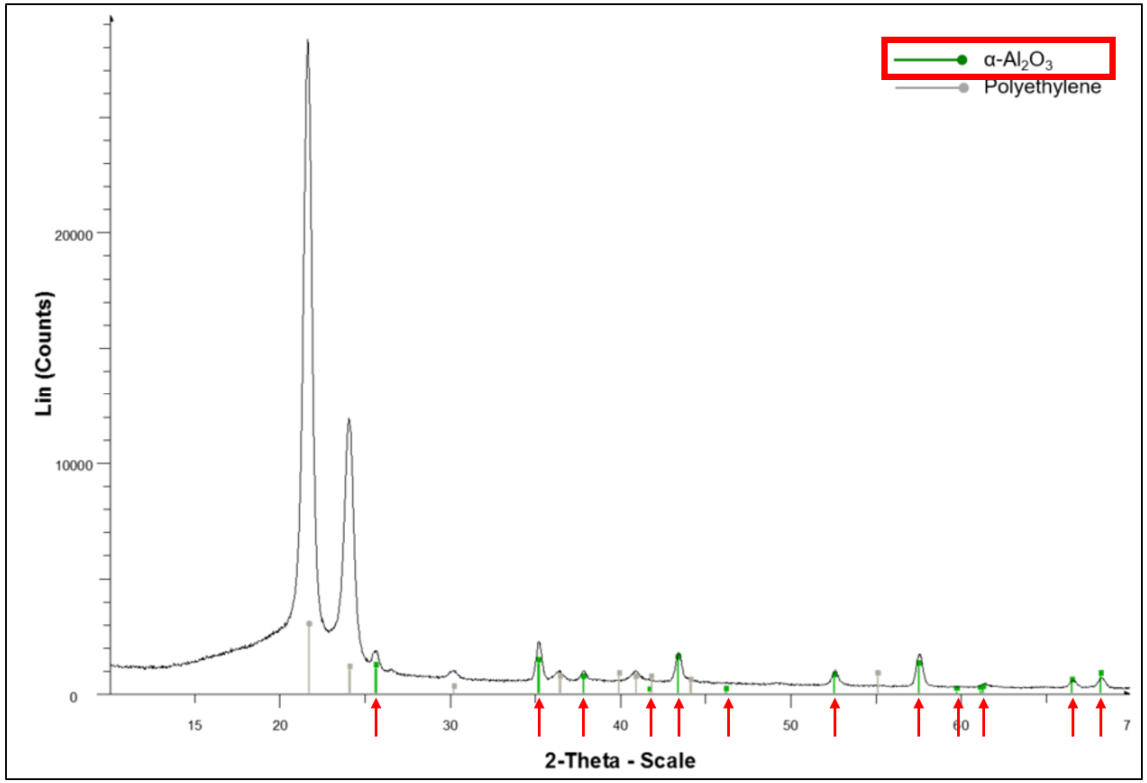
Claim 1	Representative Accused Product: ATL Cell 844297
[1pre] An organic/inorganic composite separator comprising:	Representative accused products include, but are not limited to, ATL Cell 844297:  Photograph of ATL Cell 844297. Each ATL Cell 844297 includes an organic/inorganic composite porous separator. For example, as shown in the SEM image below, the ATL Cell 844297 includes a composite porous separator having a coating layer and a polyolefin-based separator substrate:

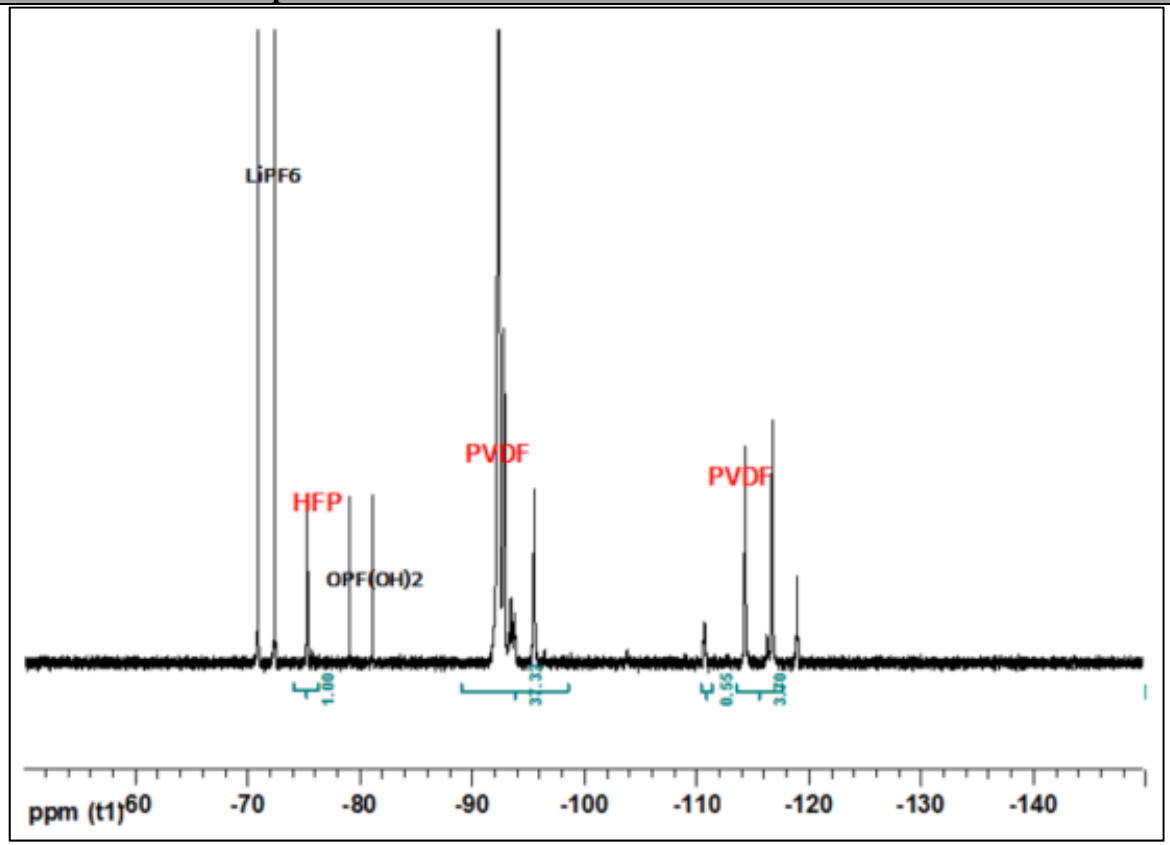
Claim 1	Representative Accused Product: ATL Cell 844297
	 Cross-section SEM image at x5k.
[1a] (a) a porous substrate having pores; and	Each ATL Cell 844297 includes a porous substrate having pores. A cross-sectional view of the porous substrate having pores can be seen below:

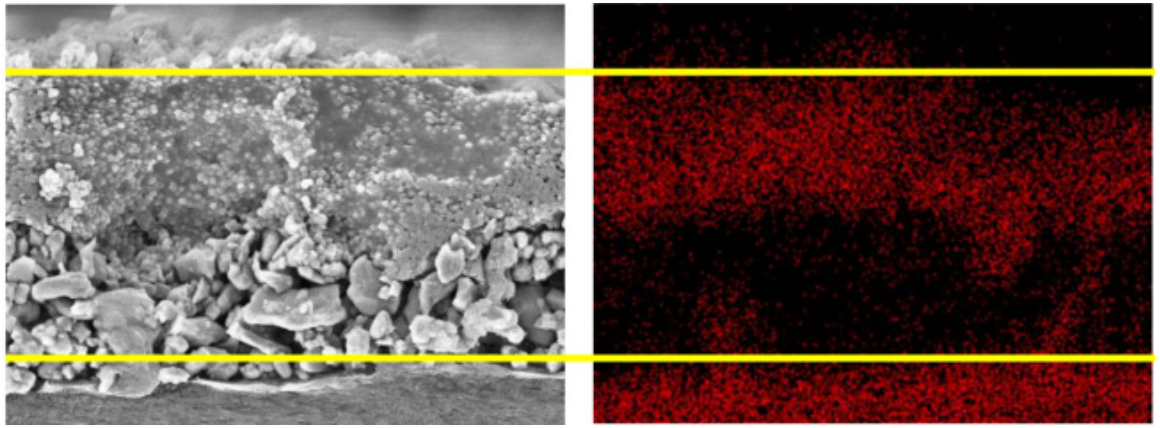
Claim 1	Representative Accused Product: ATL Cell 844297
	 Cross-section SEM image at x10k. Plan views of the porous substrate having pores can be seen below:   Plan-view SEM images at x10k and x25k, respectively.

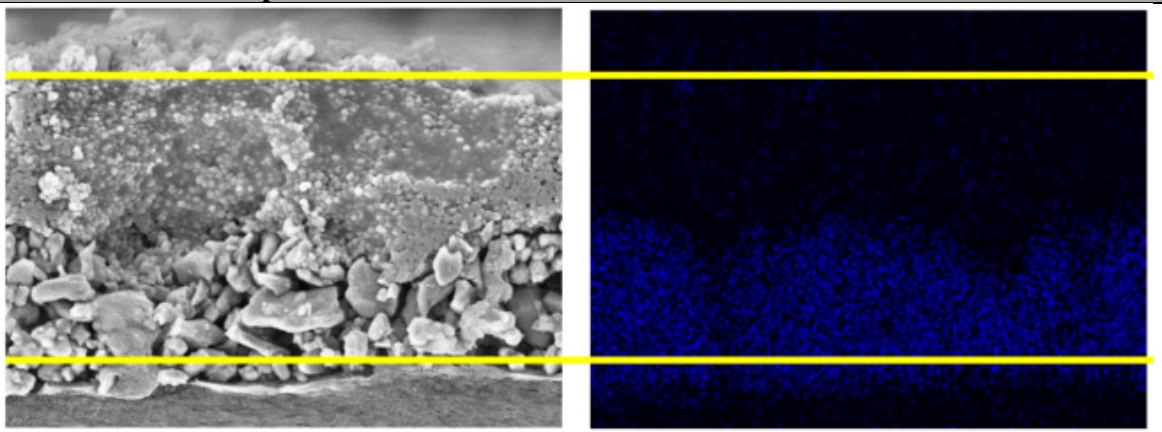
Claim 1	Representative Accused Product: ATL Cell 844297
[1b] (b) a porous active layer containing a mixture of inorganic particles and a binder polymer with which at least one surface of the porous substrate is coated,	The separator in the ATL Cell 844297 includes a porous active layer containing a mixture of inorganic particles and a binder polymer with which at least one surface of the porous substrate is coated. For example, as shown in the SEM image below, the surface of the porous substrate is coated with a porous active layer that includes a mixture of inorganic particles and a binder polymer:  Cross-section SEM image at x10k. The mixture of inorganic particles and binder polymer that makes up the porous active layer can be further seen in the SEM image below:

Claim 1	Representative Accused Product: ATL Cell 844297
	 Plan-view SEM image at x10k. As demonstrated by XRD results shown below, the porous active layer includes inorganic particles including at least α-Al_2O_3 (aluminum oxide):

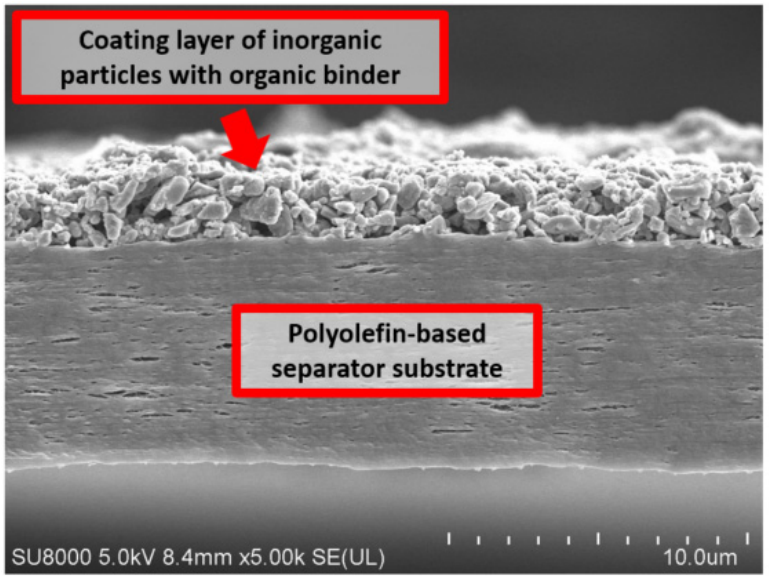
Claim 1	Representative Accused Product: ATL Cell 844297
	 XRD analysis of composite porous separator. As shown below, F-NMR analysis of the binder polymer in the active layer shows components corresponding to at least PVDF-HFP (polyvinylidene fluoride-co-hexafluoropropylene):

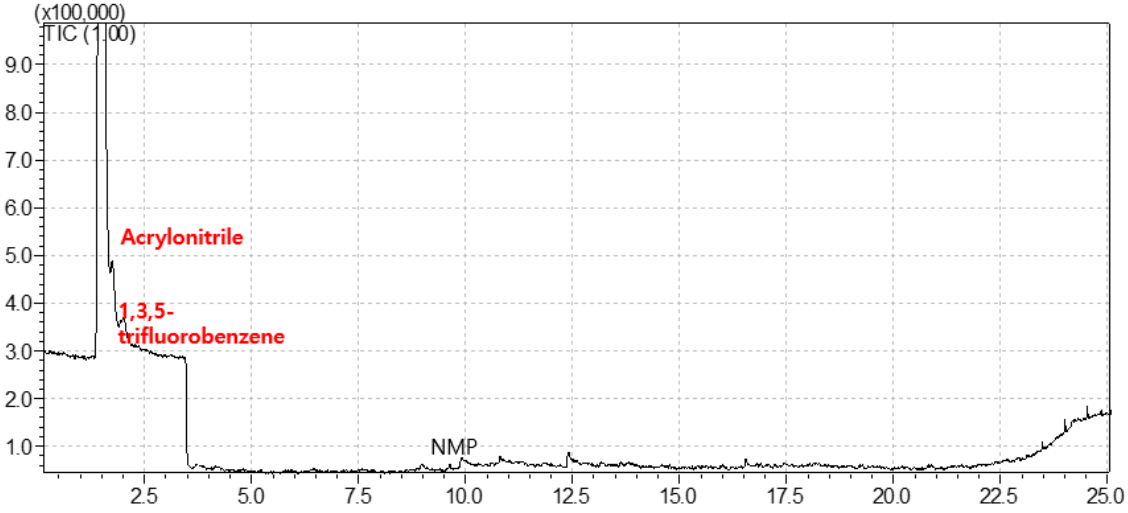
Claim 1	Representative Accused Product: ATL Cell 844297
	 F-NMR analysis of binder polymer.
[1c] wherein the porous active layer shows heterogeneity of composition morphology toward a thickness direction in which a content ratio of the binder	In the ATL Cell 844297, the porous active layer shows heterogeneity of composition morphology toward a thickness direction in which a content ratio of the binder polymer/inorganic particles present in a surface region of the porous active layer is higher than that of the binder polymer/inorganic particles present inside the porous active layer.

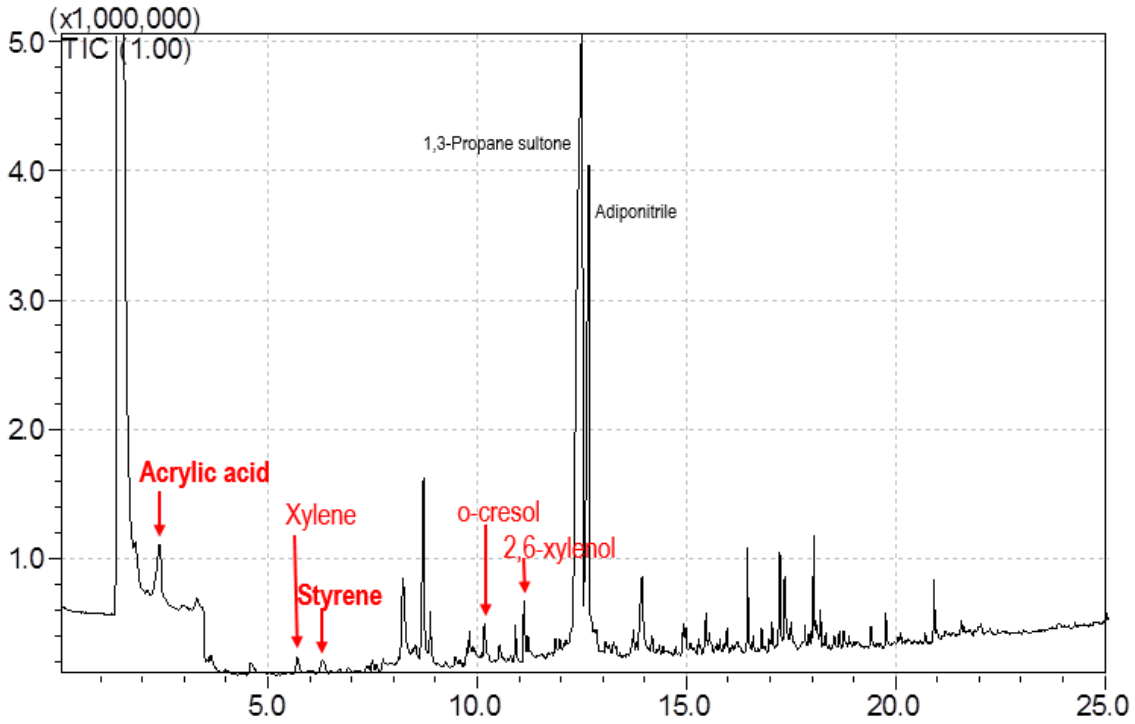
Claim 1	Representative Accused Product: ATL Cell 844297
polymer/inorganic particles present in a surface region of the porous active layer is higher than that of the binder polymer/inorganic particles present inside the porous active layer.	For example, in the EDX results below that shows a cross-sectional SEM view of the porous active layer next to the corresponding mapping of C signal intensity, it can be seen that C signal intensity increases toward a thickness direction of the active layer:  EDX mapping results showing C signal intensity in red. Because the binder polymer (PVDF-HFP) includes carbon, increasing C signal intensity corresponds to an increasing concentration of the binder polymer. In the EDX mapping below of the same active layer cross-section, it can be seen that Al signal intensity decreases toward a thickness direction of the active layer:

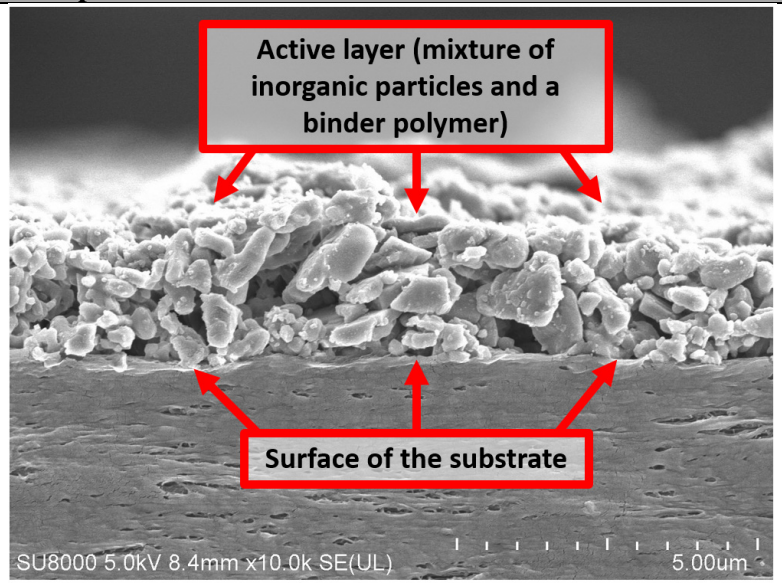
Claim 1	Representative Accused Product: ATL Cell 844297
	 EDX mapping results showing Al signal intensity in blue. Because the inorganic particles (Al_2O_3) includes aluminum, decreasing Al signal intensity corresponds to a decreasing concentration of inorganic particles. Accordingly, a content ratio of the binder polymer/inorganic particles present in a surface region of the porous active layer is higher than that of the binder polymer/inorganic particles present inside the porous active layer.

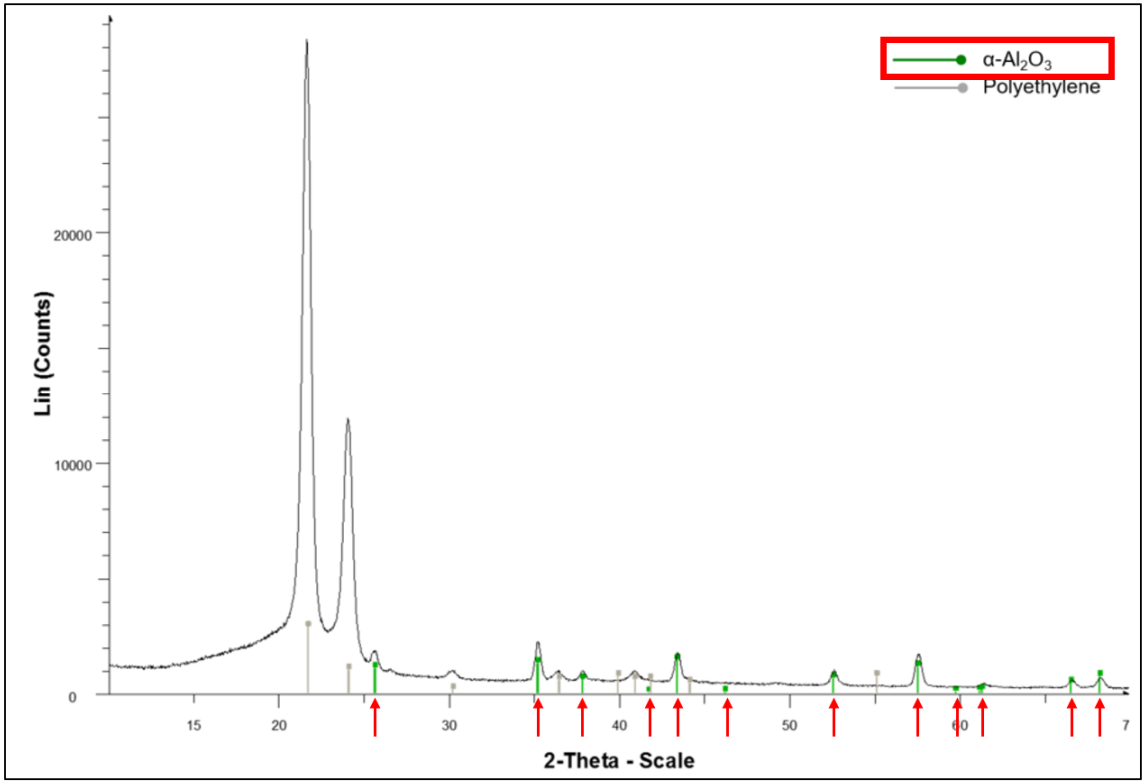
Claim 30	Representative Accused Product: ATL Cell 844297
[30pre] A method for manufacturing an organic/inorganic composite separator comprising a porous active layer, the method comprising:	Representative accused products include, but are not limited to, ATL Cell 844297:

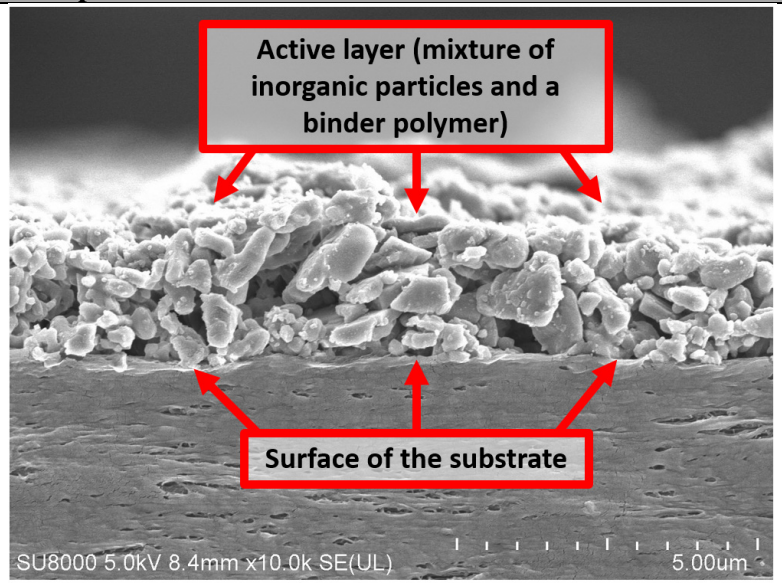
Claim 30	Representative Accused Product: ATL Cell 844297
	 Photograph of ATL Cell 844297. Each ATL Cell 844297 is manufactured to include an organic/inorganic composite separator comprising a porous active layer. For example, as shown in the SEM image below, the ATL Cell 844297 includes a composite separator having a polyolefin-based separator substrate and a coating layer of inorganic particles and organic binder that serves as the active layer:  Cross-section SEM image at x5k.

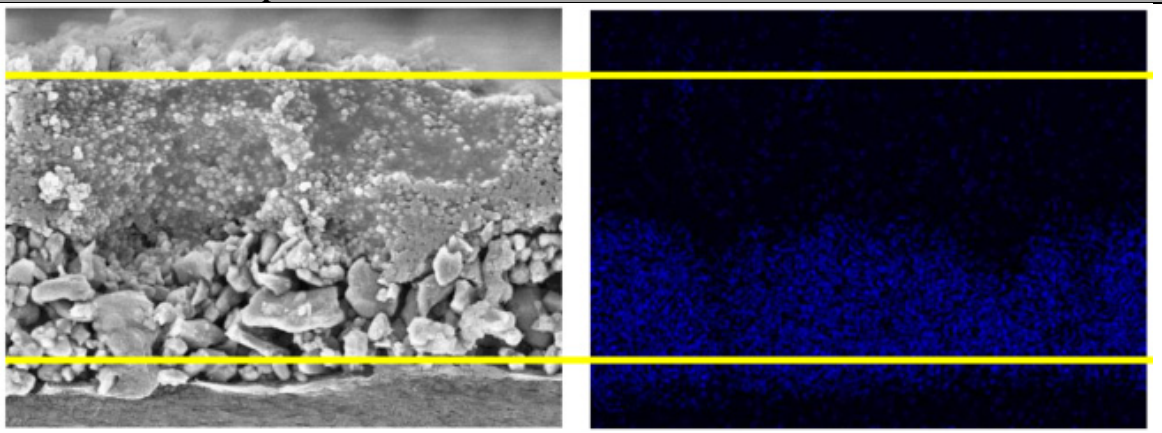
Claim 30	Representative Accused Product: ATL Cell 844297
[30a] (S1) preparing a solution of a first binder polymer containing together at least one functional group selected from the group consisting of carboxy, maleic anhydride and hydroxy; and at least one functional group selected from the group consisting of cyano and acrylate;	Each ATL Cell 844297 is manufactured by preparing a solution of a first binder polymer containing together at least one functional group selected from the group consisting of carboxy, maleic anhydride and hydroxy, and at least one functional group selected from the group consisting of cyano and acrylate. As shown below, PGC analysis of the active layer shows components corresponding to polyacrylonitrile, which contains a cyano group:  PGC analysis of binder polymer in the active layer. As shown below, PGC analysis of the binder polymer material extracted from the active layer using water shows components corresponding to acrylic acid, which contains a carboxy group:

Claim 30	Representative Accused Product: ATL Cell 844297
	 PGC analysis of binder polymer after extraction from active layer.
[30b] (S2)adding inorganic particles to the solution of the first binder polymer and dispersing the inorganic particles in the solution of the first binder polymer;	Each ATL Cell 844297 is manufactured by adding inorganic particles to the solution of the first binder polymer and dispersing the inorganic particles in the solution of the first binder polymer. For example, as shown in the SEM image below, the active layer, which is coated on the surface of the porous substrate, includes a mixture of inorganic particles and a binder polymer:

Claim 30	Representative Accused Product: ATL Cell 844297
	 Cross-section SEM image at x10k. As demonstrated by XRD results shown below, the active layer includes inorganic particles including at least α-Al_2O_3 (aluminum oxide):

Claim 30	Representative Accused Product: ATL Cell 844297
	 XRD analysis of composite porous separator.
[30c] (S3)coating the solution of the first binder polymer having inorganic particles dispersed therein with a film and drying the coated film,	Each ATL Cell 844297 is manufactured by coating the solution of the first binder polymer having inorganic particles dispersed therein with a film and drying the coated film. For example, as shown in the SEM image below, the active layer is coated on the surface of the porous substrate and dried:

Claim 30	Representative Accused Product: ATL Cell 844297
	 Cross-section SEM image at x10k.
[30d] wherein the porous active layer shows heterogeneity of composition morphology toward a thickness direction in which a content ratio of the first binder polymer/inorganic particles present in a surface region of the porous active layer is higher than that of the first binder polymer/inorganic particles present inside the porous active layer.	Each ATL Cell 844297 includes a porous active layer that shows heterogeneity of composition morphology toward a thickness direction in which a content ratio of the first binder polymer/inorganic particles present in a surface region of the porous active layer is higher than that of the first binder polymer/inorganic particles present inside the porous active layer. For example, the EDX mapping below of the active layer cross-section shows that Al signal intensity decreases toward a thickness direction of the active layer:

Claim 30	Representative Accused Product: ATL Cell 844297
	 EDX mapping results showing Al signal intensity in blue. Because the inorganic particles (Al_2O_3) includes aluminum, decreasing Al signal intensity corresponds to a decreasing concentration of inorganic particles.