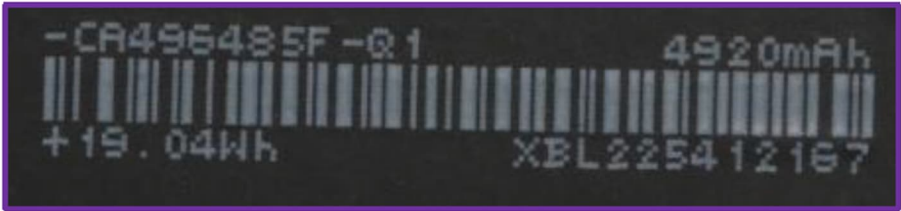
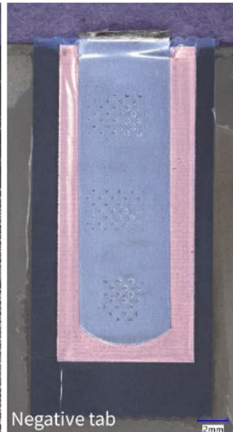
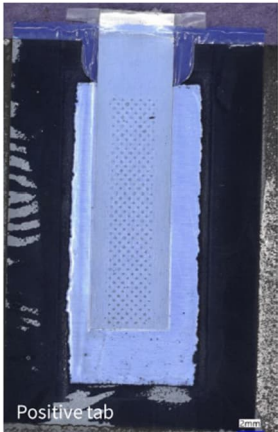


UNITED STATES PATENT NO. 11,799,131
CLAIM CHARTS FOR CLAIMS 1- 7, 12, 14-17

Plaintiff Ningde Amperex Technology Limited (“ATL”) hereby identifies infringement evidence demonstrating where each limitation of each asserted claim may be found within the following exemplary CosMX product: CA496485F-Q1 battery cells.¹

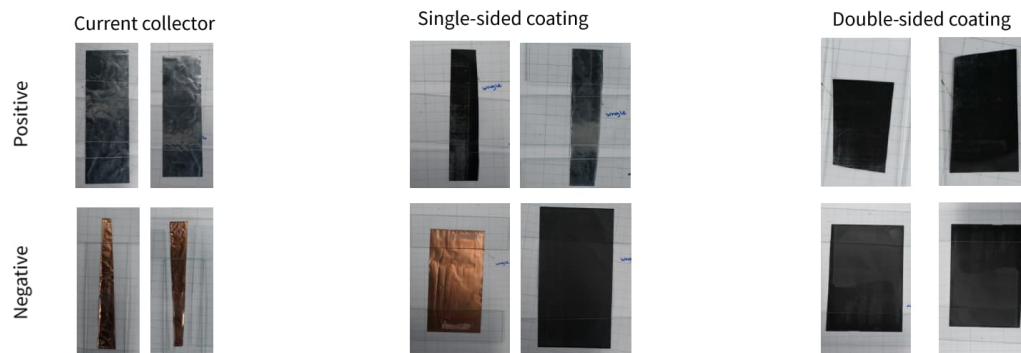
Claim 1	CosMX CA496485F-Q1 Battery
1[pre]: An electrochemical device, comprising:	The CA496485F-Q1 battery cell is an electrochemical device. 

¹ The infringement analysis is preliminary, and ATL’s investigation of CosMX is ongoing. ATL reserves the right to amend or supplement these infringement contentions.

1[a]: an electrode;	The CA496485F-Q1 battery cell comprises an electrode: 						
1[b]: an electrolyte comprising a dinitrile compound, a trinitrile compound, and propyl propionate; wherein,	The CA496485F-Q1 battery cell contains an electrolyte. GC-MS analysis reveals that the electrolyte included a dinitrile compound, a trinitrile compound, and propyl propionate. <table><tr><th>Propyl Propionate (PP) (wt %) (Z)</th><th>Dinitrile (wt %) (X)</th><th>Trinitrile (wt %) (Y)</th></tr><tr><td>47.3</td><td>2.03</td><td>1.57</td></tr></table>	Propyl Propionate (PP) (wt %) (Z)	Dinitrile (wt %) (X)	Trinitrile (wt %) (Y)	47.3	2.03	1.57
Propyl Propionate (PP) (wt %) (Z)	Dinitrile (wt %) (X)	Trinitrile (wt %) (Y)					
47.3	2.03	1.57					
1[c]: based on a total weight of the electrolyte, a weight percentage of the dinitrile compound is X, and a weight percentage of the trinitrile compound is Y; wherein, about 2 wt %≤(X+Y)≤about 8 wt %, and about 0.1≤(X/Y)≤about 6;	The relative weight percentages of X and Y in the electrolyte of the CA496485F-Q1 battery cell fall within the ranges: about 2 wt % ≤ (2.03 + 1.57) ≤ about 8 wt % = about 2 wt % ≤ (3.6) ≤ about 8 wt % about 0.1 ≤ (2.03/1.57) ≤ about 6 = about 0.1 ≤ (1.3) ≤ about 6						

1[d]: the electrode comprises a current collector, a single-sided coating and a double-sided coating; a first part of the current collector is provided with the single-sided coating and a second part of the current collector is provided with the double-sided coating; and an electrode compaction density of the electrode corresponding to the first part with the single-sided coating is D1, and, an electrode compaction density of the electrode corresponding to the second part with the double-sided coating is D2, wherein, about $0.8 \leq D1/D2 \leq$ about 1.2

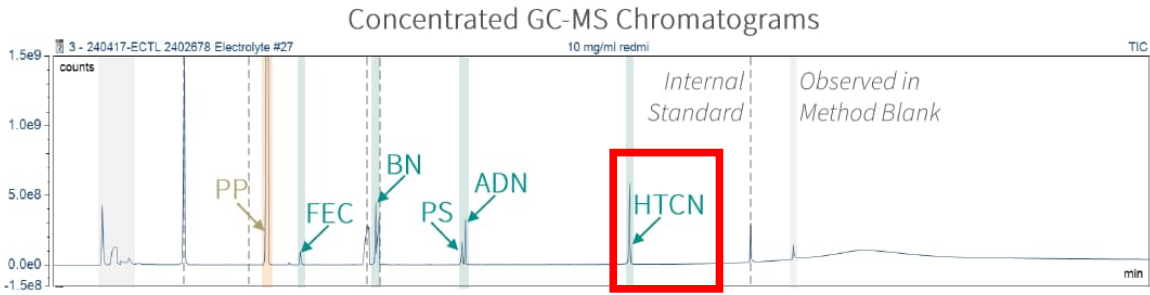
An electrode of the CA494685F-Q1 battery cell includes a current collector, wherein a first part of the current collector is provided with a single-sided coating and a second part of the current collector is provided with a double-sided coating.



Using a microbalance, image analysis, and a micrometer, the electrode compaction density of the electrode corresponding to the first part with the single-sided coating, D1, and the compaction density of the electrode corresponding to the second part with the double-sided coating, D2, were calculated using the formulation: (Weight of electrode – Weight of current collector)/Area of electrode/(Thickness of electrode-Thickness of current collector).

The results of these measurements (shown below) indicate that $0.8 \leq D1/D2 \leq$ about 1.2:

	Cathode	Anode
D1 (g/cm³)	3.58	1.72
D2 (g/cm³)	3.67	1.63
D1/D2	0.98	1.06

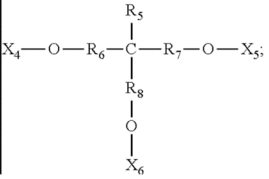
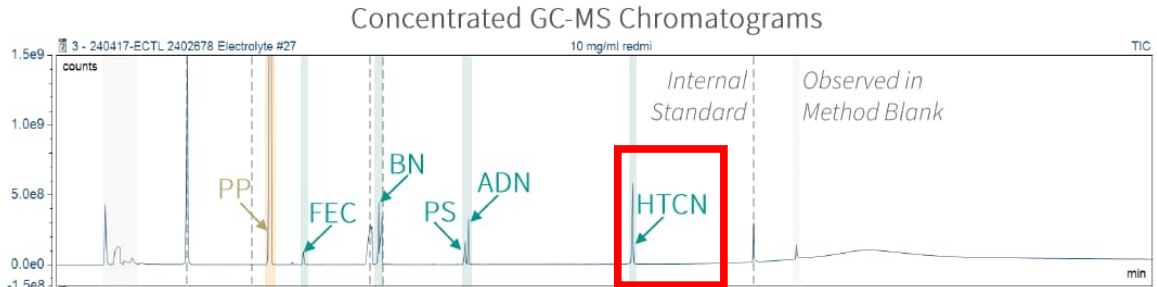
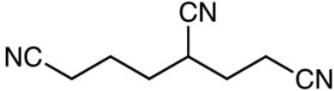
1[e]: wherein based on the total weight of the electrolyte, a weight percentage of the propyl propionate is Z; wherein, about $0.01 \leq (Y/Z) \leq$ about 0.3;	Based on the total weight of the electrolyte in the CA496485F-Q1 battery cell, a weight percentage of the propyl propionate is Z; wherein, about $0.01 \leq (Y/Z) \leq$ about 0.3. See Claim 1[b]. About $0.01 \leq (1.57/47.3) \leq$ about 0.3 = About $0.01 \leq (0.03) \leq$ about 0.3
1[f]: wherein the trinitrile compound is one selected from the group consisting of 1,3,5-pentanetricarbonitrile; 1,2,3-propanetrinitrile; 1,3,6-hexanetricarbonitrile; 1,2,6-hexanetricarbonitrile; 1,2,3-tris(2-cyanoethoxy)propane; 1,2,4-tris(2-cyanoethoxy)butane; 1,1,1-tris(cyanoethoxymethylene)ethane; 1,1,1-tris(cyanoethoxymethylene)propane; 3-methyl-1,3,5-tris(cyanoethoxy)pentane; 1,2,7-tris(cyanoethoxy)heptane; 1,2,6-tris(cyanoethoxy)hexane; 1,2,5-tris(cyanoethoxy)pentane; and any combination thereof.	The electrolyte in the CA496485F-Q1 battery cell has a trinitrile compound that is one selected from the group consisting of 1,3,5-pentanetricarbonitrile; 1,2,3-propanetrinitrile; 1,3,6-hexanetricarbonitrile; 1,2,6-hexanetricarbonitrile; 1,2,3-tris(2-cyanoethoxy)propane; 1,2,4-tris(2-cyanoethoxy)butane; 1,1,1-tris(cyanoethoxymethylene)ethane; 1,1,1-tris(cyanoethoxymethylene)propane; 3-methyl-1,3,5-tris(cyanoethoxy)pentane; 1,2,7-tris(cyanoethoxy)heptane; 1,2,6-tris(cyanoethoxy)hexane; 1,2,5-tris(cyanoethoxy)pentane; and any combination thereof. GC-MS analysis reveals that the electrolyte includes 1,3,6-hexanetricarbonitrile (HTCN)  Concentrated GC-MS Chromatograms 3 - 240417-ECTL 2402678 Electrolyte #27 10 mg/ml redmi TIC counts 1.5e9 1.0e9 5.0e8 0.0e0 -1.5e8 min PP FEC BN PS ADN HTCN Internal Standard Observed in Method Blank

Claim 2	
2: The electrochemical device according to claim 1, wherein the electrode is a cathode, and $3.5 \text{ g/cm}^3 \leq D2 \leq 4.3 \text{ g/cm}^3$	As discussed in Claim 1[d], the cathode of the CA494685F-Q1 battery cell contains a D2 value of 3.67, which is within the range of $3.5 \text{ g/cm}^3 \leq D2 \leq 4.3 \text{ g/cm}^3$.
Claim 3	
3: The electrochemical device according to claim 1, wherein the electrode is an anode, and $1.2 \text{ g/cm}^3 \leq D2 \leq 1.8 \text{ g/cm}^3$.	As discussed in Claim 1[d], the anode of the CA494685F-Q1 battery cell contains a D2 value of 1.63, which is within the range of $1.2 \text{ g/cm}^3 \leq D2 \leq 1.8 \text{ g/cm}^3$.

Claim 4	
4: The electrochemical device according to claim 1, wherein the dinitrile compound further comprises a compound of Formula (4): CN—R1—CN (4); where R1 selected from an alkylene group having 1-5 carbon atoms or an alkenylene group having 2-5 carbon atoms.	The dinitrile compound in the electrolyte of the CA496485F-Q1 battery cell includes a dinitrile which follows the structure of Formula (4). GC-MS analysis reveals that the electrolyte contains butanedinitrile (BN) and adiponitrile (ADN). Both compounds follow the structure as described Formula 4. Concentrated GC-MS Chromatograms Butanedinitrile Adiponitrile

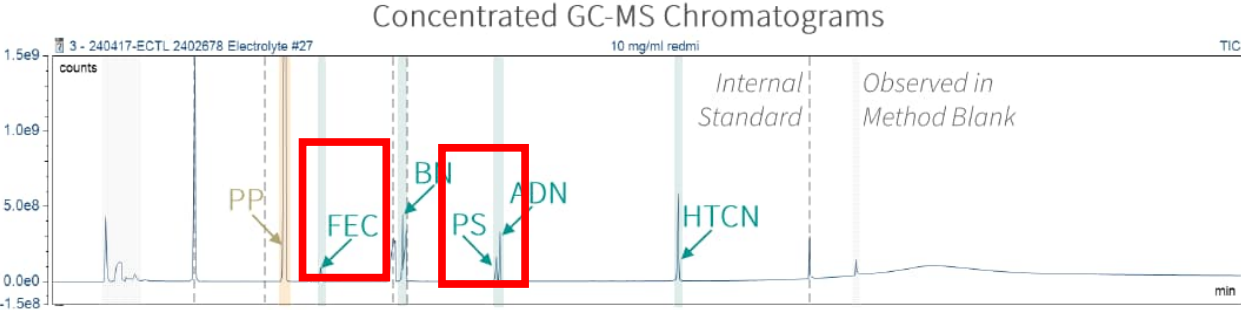
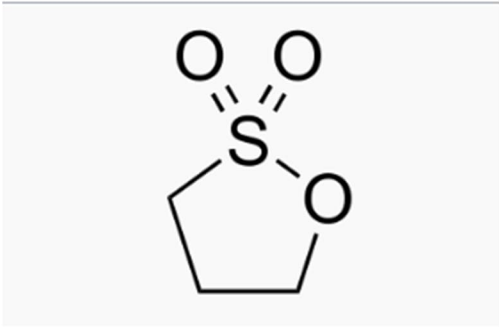
Claim 5	
5: The electrochemical device according to claim 1, wherein the dinitrile compound is one selected from the group consisting of butanedinitrile, glutaronitrile, adiponitrile, 1,5-dicyanopentane, 1,6-dicyanohexane, 1,7-dicyanoheptane, 1,8-dicyanooctane, 1,9-dicyanononane, 1,10-dicyanodecane, 1,12-dicyanododecane, tetramethylbutanedinitrile, 2-methylglutaronitrile, 2,4-dimethylglutaronitrile, 2,2,4,4-tetramethylglutaronitrile, 1,4-dicyanopentane, 2,6-dicyanoheptane, 2,7-dicyanooctane, 2,8-dicyanononane, 1,6-dicyanodecane, 1,2-dicyanobenzene, 1,3-dicyanobenzene, 1,4-dicyanobenzene, 3,5-dioxapimelonitrile, 1,4-bis(cyanoethoxy)butane, ethylene glycol bis(2-cyanoethyl)ether, diethylene glycol bis(2-	See Claim 5.

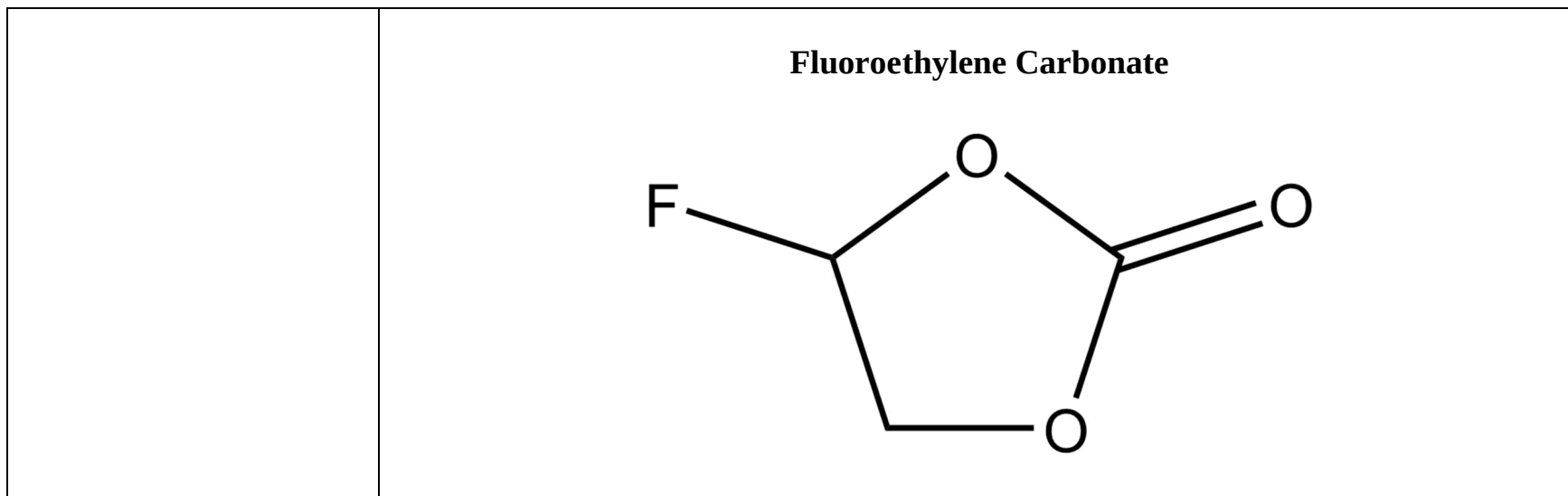
cyanoethyl)ether, triethylene glycol bis(2-cyanoethyl)ether, tetraethylene glycol bis(2-cyanoethyl)ether, 3,6,9,12,15,18-hexaoxaicosanoic dinitrile, 1,3-bis(2-cyanoethoxy)propane, 1,4-bis(2-cyanoethoxy)butane, 1,5-bis(2-cyanoethoxy)pentane, ethylene glycol bis(4-cyanobutyl)ether, 1,4-dicyano-2-butene, 1,4-dicyano-2-methyl-2-butene, 1,4-dicyano-2-ethyl-2-butene, 1,4-dicyano-2,3-dimethyl-2-butene, 1,4-dicyano-2,3-diethyl-2-butene, 1,6-dicyano-3-hexene, 1,6-dicyano-2-methyl-3-hexene, 1,6-dicyano-2-methyl-5-methyl-3-hexene, and any combination thereof.	
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Claim 6	
6: The electrochemical device according to claim 1, wherein the trinitrile compound comprises a compound of Formula (6) $\text{CN}-(\text{CH}_2)_x-\text{CH}\{(\text{CH}_2)_y-\text{CN}\}-(\text{CH}_2)_z-\text{CN} \quad (6);$ Formula (7)  or a combination thereof, where in Formula (6), x, y, and z represent an integer from 0 to 5, and x, y, and z are not 0 at the same time; and in Formula (7), R5 represents hydrogen or an alkyl group having 1-5 carbon atoms, R6, R7 and R8 are each independently an alkylene group having 1-5 carbon atoms, and X4, X5 and X6	The trinitrile compound in the electrolyte of the CA496485F-Q1 battery cell includes a trinitrile which follows the structure of Formula (6) and/or Formula (7). GC-MS analysis reveals that the electrolyte contains 1,3,6-hexanetricarbonitrile as a trinitrile compound.  1,3,6-hexanetricarbonitrile 

are each independently — R9—CN, in which R9 represents an alkylene group having 1-5 carbon atoms.	
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Claim 7							
7: The electrochemical device according to claim 1, wherein X is about 0.01-10 wt %, Y is about 0.01-10 wt %, and a weight percentage Z of the propyl propionate is about 5-50 wt %.	As described in claim 1[c], based on the total weight of the electrolyte of the CA496485F-Q1 battery cell, a weight percentage of the dinitrile compound which can be described as X, a weight percentage of the trinitrile compound which can be described as Y, and a weight percentage of propyl propionate which can be described as Z. See Claim 1[b] and 1[e]. The X, Y, and Z values of the electrolyte of the CA496485F-Q1 battery cell fall within the ranges of X is about 0.01-10 wt %, Y is about 0.01-10 wt %.and Z is about 5-50 wt%. <table><tr><th>Propyl Propionate (PP) (wt %) (Z)</th><th>Dinitrile (wt %) (X)</th><th>Trinitrile (wt %) (Y)</th></tr><tr><td>47.3</td><td>2.03</td><td>1.57</td></tr></table>	Propyl Propionate (PP) (wt %) (Z)	Dinitrile (wt %) (X)	Trinitrile (wt %) (Y)	47.3	2.03	1.57
Propyl Propionate (PP) (wt %) (Z)	Dinitrile (wt %) (X)	Trinitrile (wt %) (Y)					
47.3	2.03	1.57					

Claim 12 12: The electrochemical device according to claim 1, wherein the electrolyte further comprising one selected from a group consisting of: a cyclic carbonate ester having a carbon-carbon double bond, a fluorinated chain carbonate ester, a fluorinated cyclic carbonate ester, a compound having a sulfur-oxygen double bond, and any combination thereof.	The electrolyte of the CA496485F-Q1 battery comprises at least one selected from the group consisting of: a cyclic carbonate ester having a carbon-carbon double bond, a fluorinated chain carbonate ester, a fluorinated cyclic carbonate ester, a compound having a sulfur-oxygen double bond, and any combination thereof. The electrolyte of the CA496485F-Q1 battery cell contains 1,3-propane sultone (PS) which has a sulfur-oxygen double bond and fluoroethylene carbonate (FEC) which is a fluorinated cyclic carbonate ester. Concentrated GC-MS Chromatograms  1,3-Propane sultone 
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Claim 14	
14[pre]: An electrochemical device, comprising:	See Claim 1[pre].
14[a]: electrodes; and	See Claim 1[a].
14[b]: an electrolyte comprising a dinitrile compound, a trinitrile compound, and propyl propionate; wherein,	See Claim 1[b].
14[c]: based on a total weight of the electrolyte, a weight percentage of the dinitrile compound is X, and a weight percentage of the trinitrile	See Claim 1[c].

compound is Y; wherein about 2 wt % $\leq (X+Y) \leq$ about 8 wt %, and about 0.1 $\leq (X/Y) \leq$ about 6; wherein,	
14[d]: the electrodes comprise a first electrode and a second electrode, wherein the first electrode comprises a first current collector and a single-sided coating; the second electrode comprises a second current collector and a double-sided coating; and an electrode compaction density of the first electrode comprising the single-sided coating is D1, and, an electrode compaction density of the second electrode comprising the double-sided coating is D2, wherein, about 0.8 $\leq D1/D2 \leq$ about 1.2;	See Claim 1[d].
14[e]: wherein based on the total weight of the electrolyte, a weight percentage of the propyl propionate is Z; wherein, about 0.01 $\leq (Y/Z) \leq$ about 0.3;	See Claim 1[e].

14[f]: wherein the trinitrile compound is one selected from the group consisting of 1,3,5-pentanetricarbonitrile; 1,2,3-propanetrinitrile; 1,3,6-hexanetricarbonitrile; 1,2,6-hexanetricarbonitrile; 1,2,3-tris(2-cyanoethoxy)propane; 1,2,4-tris(2-cyanoethoxy)butane; 1,1,1-tris(cyanoethoxymethylene)ethane; 1,1,1-tris(cyanoethoxymethylene)propane; 3-methyl-1,3,5-tris(cyanoethoxy)pentane; 1,2,7-tris(cyanoethoxy)heptane; 1,2,6-tris(cyanoethoxy)hexane; 1,2,5-tris(cyanoethoxy)pentane; and any combination thereof.	See Claim 1[f].
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Claim 15	
15: The electrochemical device according to claim 14, wherein the first electrode is a cathode, the second electrode is a cathode, and $3.5 \text{ g/cm}^3 \leq D2 \leq 4.3 \text{ g/cm}^3$.	See Claim 1[d], Claim 2, and Claim 14[d].
Claim 16	
16. The electrochemical device according to claim 14, wherein the first electrode is an anode, the second electrode is an anode, and $1.2 \text{ g/cm}^3 \leq D2 \leq 1.8 \text{ g/cm}^3$.	See Claim 1[d], Claim 3, and Claim 14[d].

Claim 17	
17: The electrochemical device according to claim 14, wherein the dinitrile compound is one selected from the group consisting of butanedinitrile, glutaronitrile, adiponitrile, 1,5-dicyanopentane, 1,6-dicyanohexane, 1,7-dicyanoheptane, 1,8-dicyanooctane, 1,9-dicyanononane, 1,10-dicyanodecane, 1,12-dicyanododecane, tetramethylbutanedinitrile, 2-methylglutaronitrile, 2,4-dimethylglutaronitrile, 2,2,4,4-tetramethylglutaronitrile, 1,4-dicyanopentane, 2,6-dicyanoheptane, 2,7-dicyanooctane, 2,8-dicyanononane, 1,6-dicyanodecane, 1,2-dicyanobenzene, 1,3-dicyanobenzene, 1,4-dicyanobenzene, 3,5-dioxapimelonitrile, 1,4-bis(cyanoethoxy)butane, ethylene glycol bis(2-cyanoethyl)ether, diethylene glycol bis(2-	See Claim 5.

cyanoethyl)ether, triethylene glycol bis(2-cyanoethyl)ether, tetraethylene glycol bis(2-cyanoethyl)ether, 3,6,9,12,15,18-hexaoxaecosanoic dinitrile, 1,3-bis(2-cyanoethoxy)propane, 1,4-bis(2-cyanoethoxy)butane, 1,5-bis(2-cyanoethoxy)pentane, ethylene glycol bis(4-cyanobutyl)ether, 1,4-dicyano-2-butene, 1,4-dicyano-2-methyl-2-butene, 1,4-dicyano-2-ethyl-2-butene, 1,4-dicyano-2,3-dimethyl-2-butene, 1,4-dicyano-2,3-diethyl-2-butene, 1,6-dicyano-3-hexene, 1,6-dicyano-2-methyl-3-hexene, 1,6-dicyano-2-methyl-5-methyl-3-hexene, and any combination thereof.	
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