

<b>MXene/Hybrid Composites</b>	<b>Initial Charge/Discharge Capacity (mAh/g)</b>	<b>current density</b>	<b>CE (%)</b>	<b>Last capacity after cycling</b>	<b>Reference</b>
Layered $Ti_3C_2T_x$	335	0.1 A/g	~100%	260 (1A/g)	Song et al. <sup>1</sup>
Functionalized activate titanium carbide nanorod growth on the surface of $Ti_3C_2T_x$ (FTCN-MXene)	1133	0.1C	98.78	692 (3C)	Nam et al. <sup>2</sup>
$Ti_3C_2T_x/TiO_2$	272	0.5 C (50 mA/g)	-----	140 (after the 200 mA/g)	Liu et al. <sup>3</sup>
Si/ $Ti_3C_2$	879	0.2A/g	69% initial CE	242 (3 A/g)	Kong et al. <sup>4</sup>
Si@ $Ti_3C_2$	3502.3	0.1A/g	99.8%	1720.8 (1A/g)	Yang et al. <sup>5</sup>
$Ti_3C_2T_x$ /Si scrolls	226	100 mA/g	100%	89 (5000 mAh/g)	Meng et al. <sup>6</sup>
Si/d- $Ti_3C_2$	1948	0.2A/g	98% (after 7 <sup>th</sup> cycles)	890 (2 A/g)	Zhu et al. <sup>7</sup>
SiO/Wrinkled MXene	1987	200 mA/g		713 (2000 mA/g)	Wei et al. <sup>8</sup>
Binder free Si/MXene composites	2118	200 mA/g	71% (1st cycle)	1672(1000 mA/g)	Tian et al. <sup>9</sup>
Si/Alg/MXene(80/16/4)	3800	0.1C	Initial CE 80%	1050 (1C)	Sarang et al. <sup>10</sup>
$Ti_3C_2T_x$ /Si	731	0.1 C	100 %	252 (after 200 cycles)	Li et al. <sup>11</sup>
SiNP@MX1/MX2	2865	0.05 A/g	100%	574 (5	Li et al. <sup>12</sup>

				A/g)	
Si/Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub>	1067.6	300 mA/g	----	648 (300 mA/g after 100 cycles)	Zhang et al. <sup>13</sup>
Ti <sub>3</sub> C <sub>2</sub> @Si/SiO <sub>x</sub> @TiO <sub>2</sub>	1536	100mA/g	>98%	355 (2000 A/g)	Jiang et al. <sup>14</sup>
SiO <sub>2</sub> /MXene	840	0.1 A/g	99.99%(after 2 <sup>nd</sup> cycle)	517 (3A/g)	Mu et al. <sup>15</sup>
Si p-NSs@TNs	1498	0.1 A/g	80.2 % (ICE)	899 (4 A/g)	Xia et al. <sup>16</sup>
SiO <sub>2</sub> /Ti <sub>3</sub> C <sub>2</sub>	567	0.1 C	99.6	134.2 (5C)	Liu et al. <sup>17</sup>
Si/d-Ti <sub>3</sub> C <sub>2</sub>	1948	0.1 C	74% (ICE)	890 (2C)	Zhu et al. <sup>7</sup>
Si@MXene capsules	1797	0.2 A/g	99.6%	759 (2 A/g)	Yan et al. <sup>18</sup>
Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub> /SnO <sub>2</sub>	1021	1C (100 mA/g)	98.5	500 (after 700 cycles)	Xiong et al. <sup>19</sup>
SnO <sub>2</sub> /MXene@200	843	500 mA/g	-----	514 (50 cycles)	Ahmed et al. <sup>20</sup>
10-SnO <sub>x</sub> /Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub>	729.1	50 mA/g	-----	581 (50 cycles)	Chen et al. <sup>21</sup>
SnO <sub>2</sub> /Ti <sub>3</sub> C <sub>2</sub>	1030.1 mAh/g	1C	98%	82 mAh/g (5C)	Wang et al. <sup>22</sup>
SnO <sub>2</sub> QDs@d-Ti <sub>3</sub> C <sub>2</sub> T <sub>x</sub>	1046	0.5C	98%	350 (10 C)	Wang et al. <sup>23</sup>
PVP-Sn(IV)@ Ti <sub>3</sub> C <sub>2</sub>	1637 mA/cm <sup>3</sup>	50 mA/g	99%	698 mA/cm <sup>3</sup> (3000 mA/g)	Luo et al. <sup>24</sup>

Snnanocomplexpillared few layer $Ti_3C_2T_x$ MXene (STCT)	881.5 mAh/g	500 mA/g	97.2%	662 (5000) mA/g	Zhang et al. <sup>25</sup>
3D Sn@ $Ti_3C_2$	803mAh/g	0.1 A/g	> 99%	238 (3A/g)	Wang et al. <sup>26</sup>
0D–2D SnO <sub>2</sub> QDs/MXene	887.5 mAh/g	50 mA/g	Close to 100%	364 (3000 mA/g)	Liu et al. <sup>27</sup>
SnO <sub>x</sub> @ $Ti_3C_2$	365	0.1 A/g	99.9%	190 (2A/g)	Sun et al. <sup>28</sup>
Sn/SnO <sub>x</sub> @ $Ti_3C_2$	834.5	50 mA/g	90.3 % (ICE)	Discharge capacity 194.5 (5 A/g)	Zuo et al. <sup>29</sup>
Porous- $Ti_3C_2T_x$ CNT	1250	0.1 C	100	500 (after 100 cycles)	Ren et al. <sup>30</sup>
$Ti_3C_2$ /CNT/Fe/CF	430	1A/g	58.7	175 (10 A/g)	Zheng et al. <sup>31</sup>
C-Fe <sub>3</sub> O <sub>4</sub> / $Ti_3C_2$	1196.8	0.5 A/g	-	780 (2 A/g)	Li et al. <sup>32</sup>
$Ti_3C_2T_x$ -CNTs/SiNPs	2583	100 mA/g	---	750 (1000 mA/g)	Cao et al. <sup>33</sup>
C@Si@CNTs-7.5	880	100 mA/g	99%	653 (1000 mA/g)	Yang et al. <sup>34</sup>
MXene/CNTs@P	2598	0.05	77%	454 (30 C)	Zhang et al. <sup>35</sup>
1:1 $Ti_3C_2$ / rGO	473	0.05 A/g	---	16.7 (4A/g)	Ma et al. <sup>36</sup>
rGO/ $Ti_2CT_r$	920	50 mA/g	>99%	300 (2000 mA/g)	Xu et al. <sup>37</sup>
$Ti_3C_2$ / $TiO_2$ /rGO	339	0.1 A/g	99%	173 (10 A/g)	Li et al. <sup>38</sup>
$Ti_3C_2T_x$ -CNT/SiNPs	5.2 mAh/Cm <sup>2</sup>	100 mA/g	62.8 % (ICE)	5.3 mAh/Cm <sup>2</sup> (2000)	Cao et al. <sup>39</sup>

				mA/g)	
T-MXene@C	499.4	0.2 C	56.9% (ICE)	101.5 (100 C)	Zhang et al. <sup>40</sup>
MXene/Si@SiOx@C-2	1674 mAh g <sup>-1</sup>	0.2 C	81.3% (ICE) after that 100%	510 (10 C)	Zhang et al. <sup>41</sup>

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