

## Supporting Information

### Normalization of charge/discharge time vs. current rate diagrams for the rechargeable batteries

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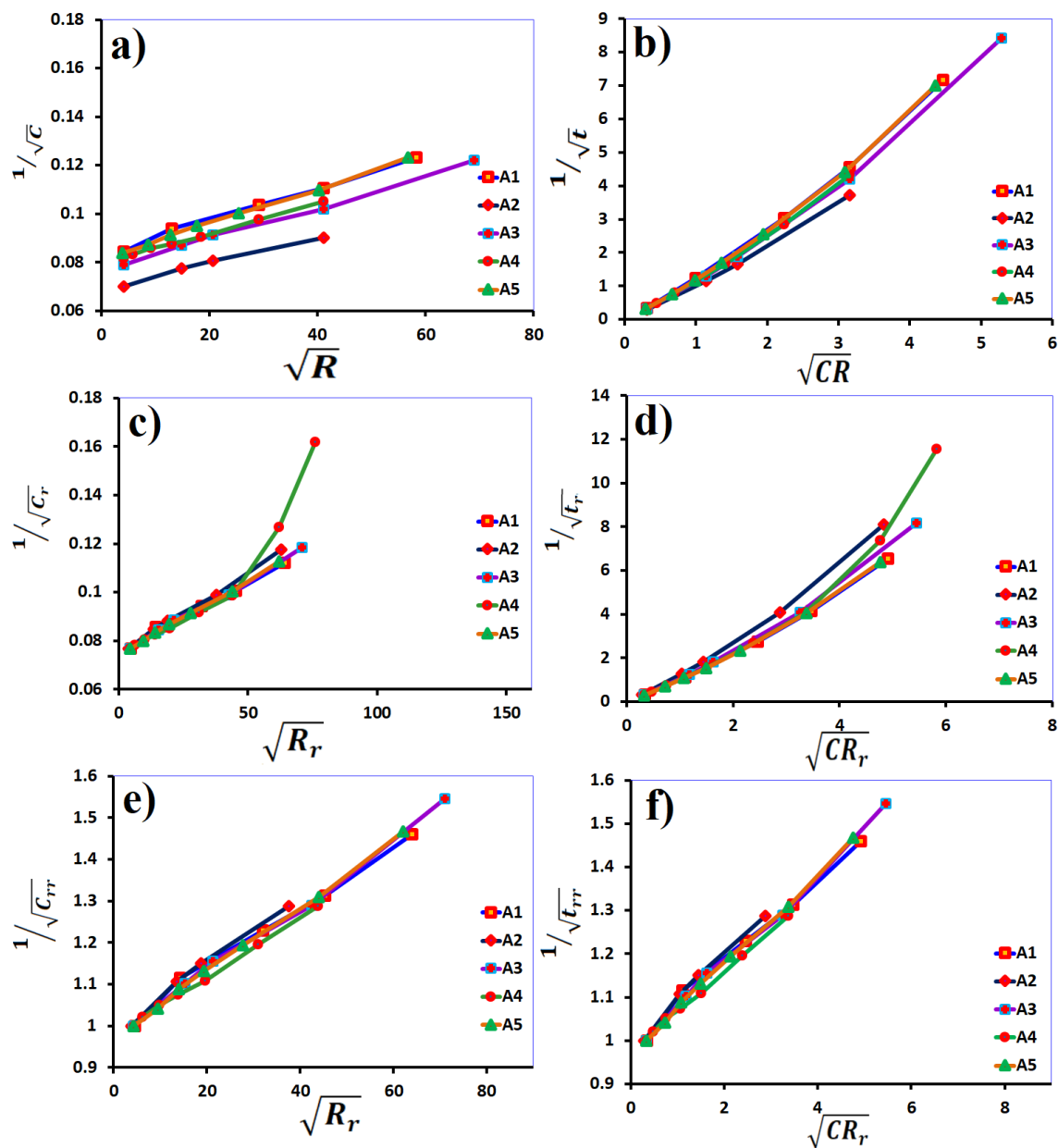
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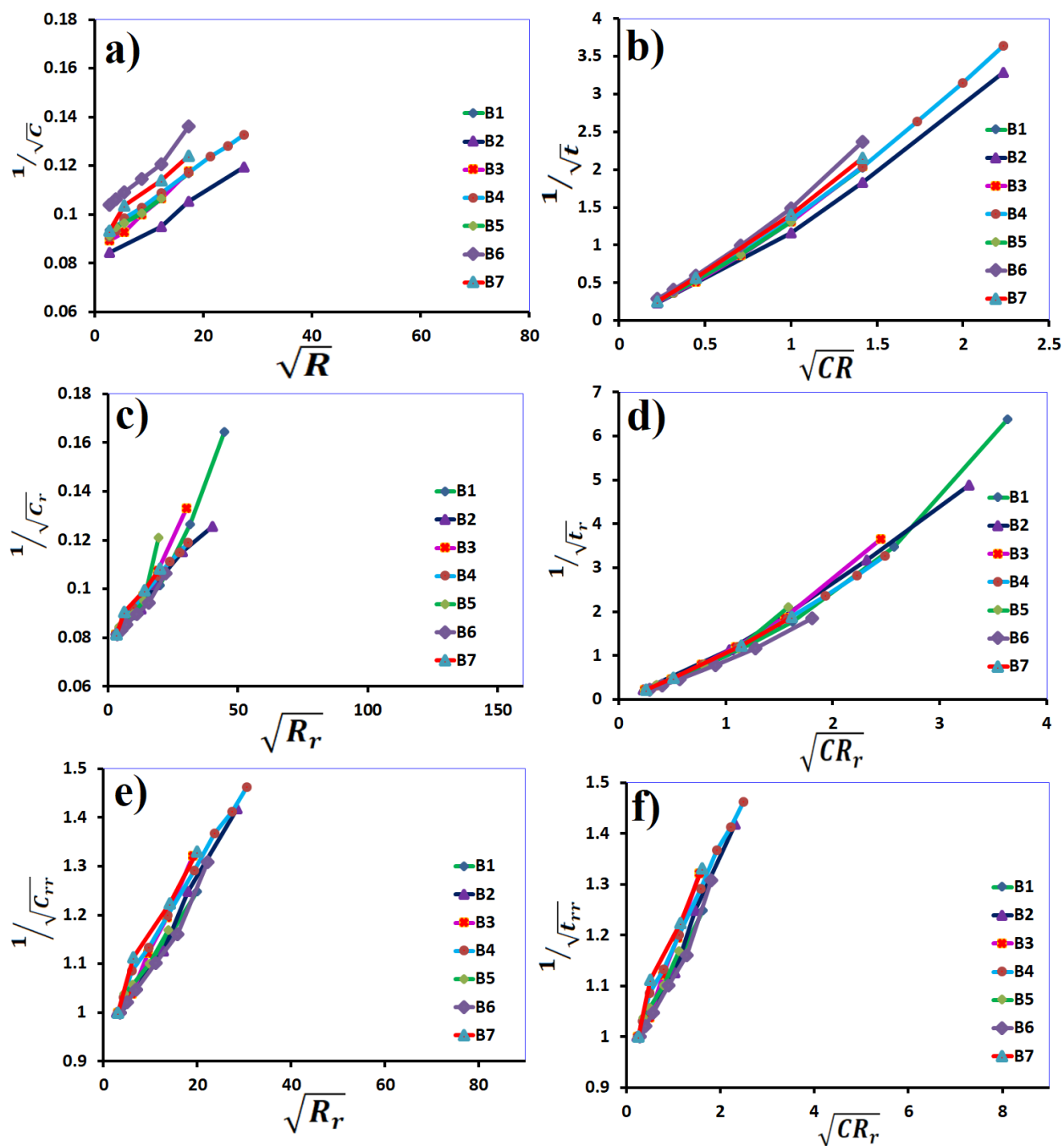
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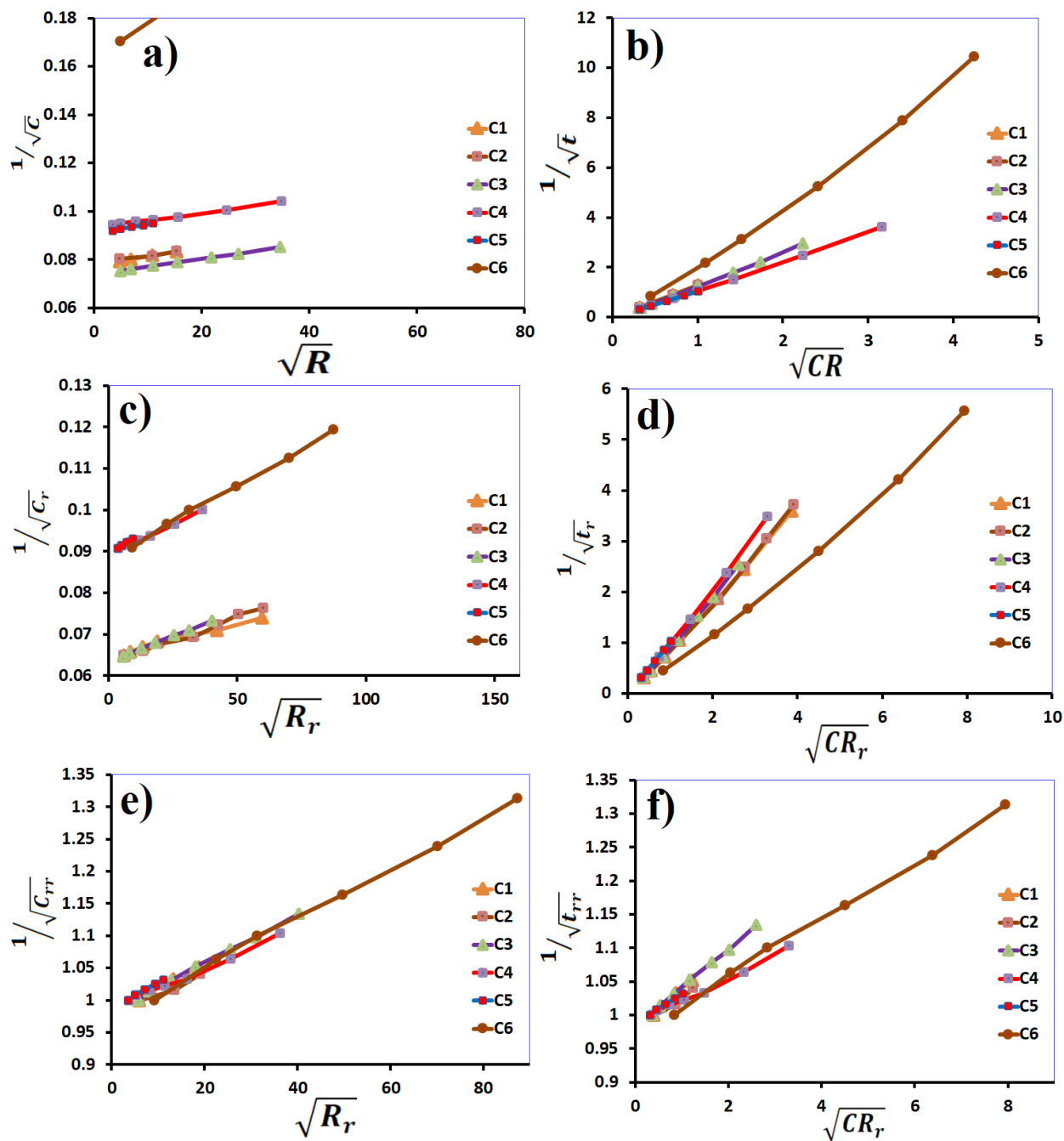
**Keywords:** charge/discharge behaviour, Li- and Na-ion batteries, rate capability, performance, standardization and normalization



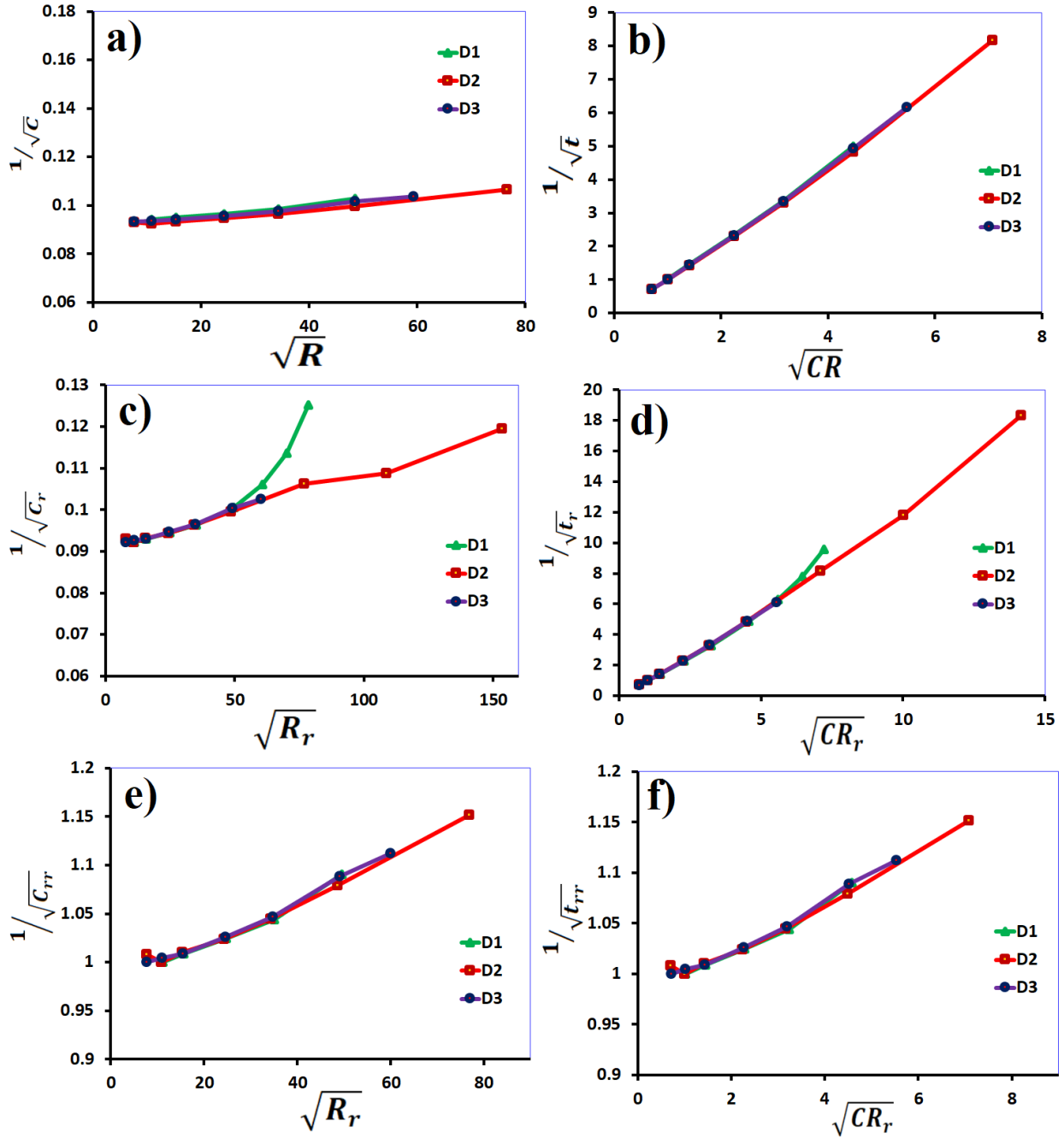
**Figure S1.** Ordinary (a and b), standardization (c and d), and normalization (e and f) capacity- and time- based diagrams, respectively. A samples (corresponding to Figure 1 of the article) stand for  $\text{LiFePO}_4/\text{C}$  electrode materials. The data are taken from the following references: A1,<sup>1</sup> A2,<sup>2</sup> A3,<sup>3</sup> A4,<sup>4</sup> and A5<sup>5</sup>.



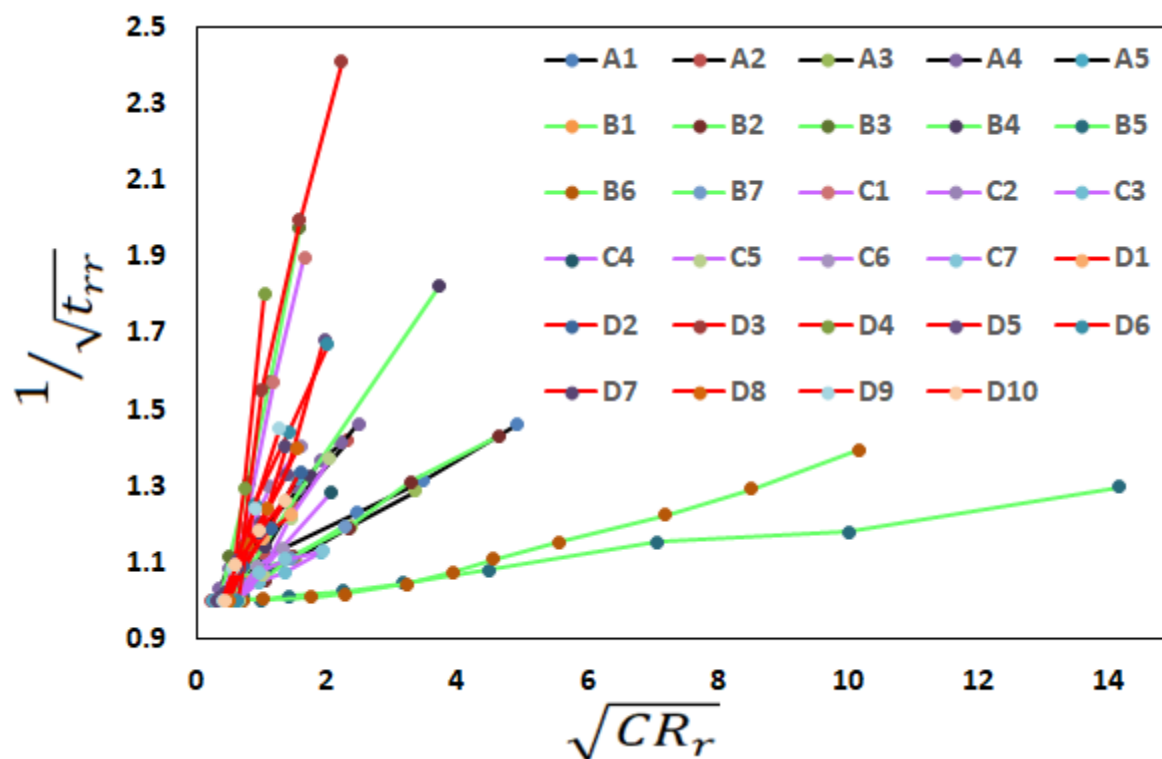
**Figure S2.** Ordinary (a and b), standardization (c and d), and normalization (e and f) capacity- and time- based diagrams, respectively. B samples (corresponding to Figure 1 of the article) stand for  $\text{LiFeSO}_4\text{F}$  electrode materials. The data are taken from the following references: B1,<sup>6</sup> B2,<sup>7</sup> B3,<sup>8</sup> B4,<sup>9</sup> B5,<sup>10</sup> B6,<sup>11</sup> and B7<sup>12</sup>.



**Figure S3.** Ordinary (a and b), standardization (c and d), and normalization (e and f) capacity- and time- based diagrams, respectively. C samples (corresponding to Figure 1 of the article) stand for Na-ion batteries. The data are taken from the following references: C1,<sup>13</sup> C2,<sup>14</sup> C3,<sup>15</sup> C4,<sup>16</sup> C5,<sup>17</sup> C6,<sup>18</sup> and C7<sup>18</sup>.



**Figure S4.** Ordinary (a and b), standardization (c and d), and normalization (e and f) capacity- and time- based diagrams, respectively. C samples (corresponding to Figure 1 of the article) stand for  $\text{Na}_3\text{V}_2(\text{PO}_4)_3$  (NVP) electrode materials. The data are taken from the following references: D1,<sup>19</sup> D2,<sup>10</sup> and D3<sup>20</sup>.



**Figure S5:**  $\sqrt{CR_r} - 1/\sqrt{t_{rr}}$  diagram corresponding to Figure 2b of the paper. The data are taken from the following references: A1,<sup>1</sup> A2,<sup>2</sup> A3,<sup>3</sup> A4,<sup>4</sup> A5,<sup>5</sup> B1,<sup>6</sup> B2,<sup>7</sup> B3,<sup>8</sup> B4,<sup>9</sup> B5,<sup>10</sup> B6,<sup>11</sup> B7,<sup>12</sup> C1,<sup>13</sup> C2,<sup>14</sup> C3,<sup>15</sup> C4,<sup>16</sup> C5,<sup>17</sup> C6,<sup>18</sup> C7,<sup>18</sup> D1,<sup>21</sup> D2,<sup>22</sup> D3,<sup>23</sup> D4,<sup>23</sup> D5,<sup>24</sup> D6,<sup>24</sup> D7,<sup>25</sup> D8,<sup>26</sup> D9,<sup>27</sup> and D10.<sup>28</sup>

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