Supplementary Information (SI) for RSC Advances.
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Supporting Information for

Coal-based graphene prepared from coal of different rank as precursors for sodium-ion batteries with exceptional sodium storage performances

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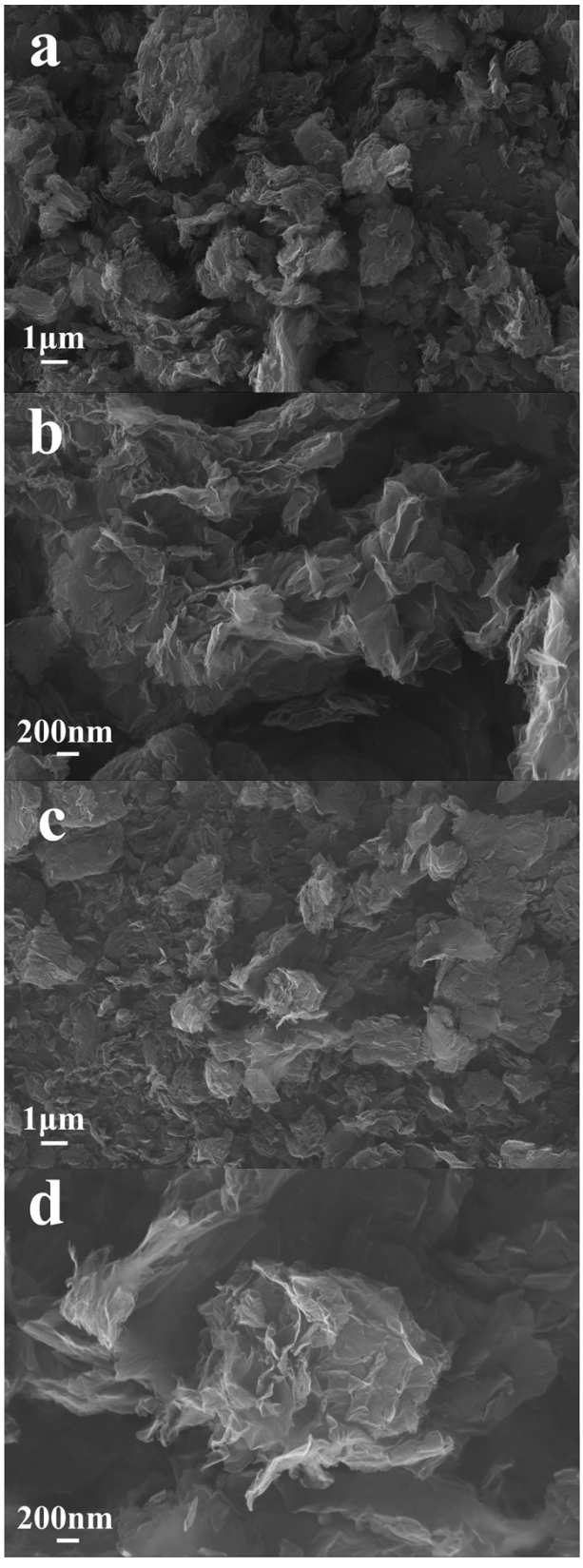

a
1μm
b
200nm
c
1μm
d
200nm

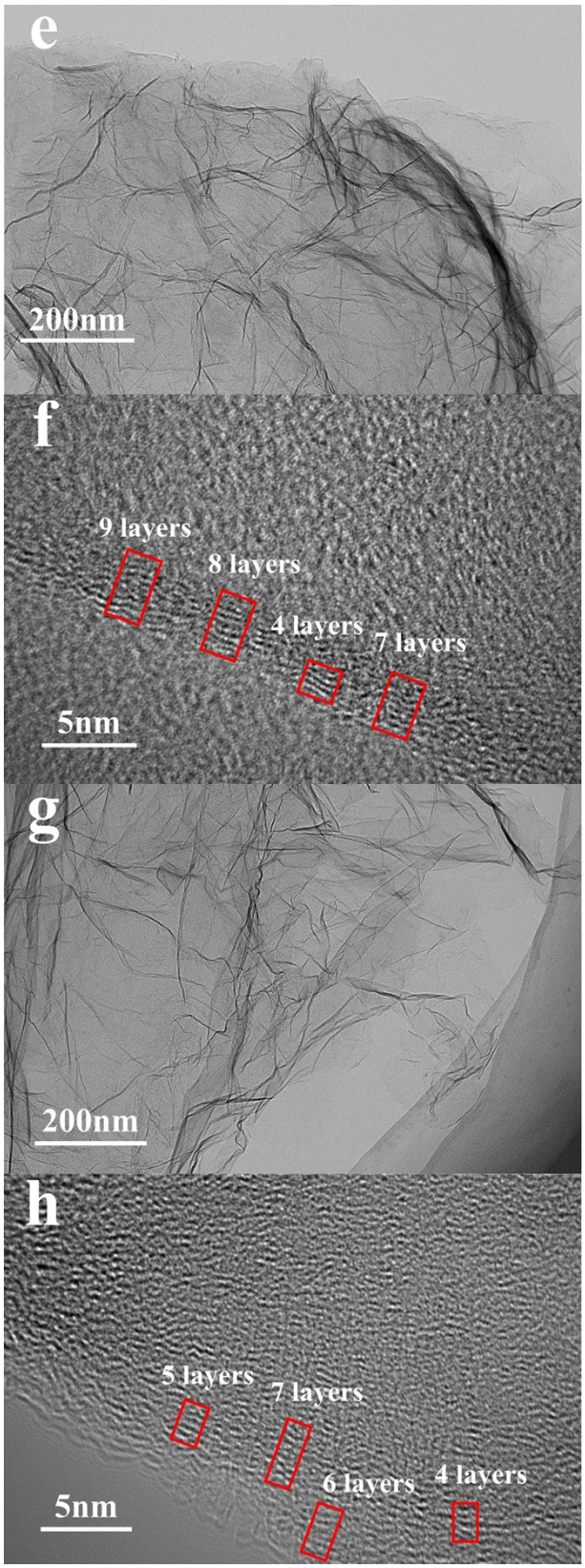


Fig. S1. The SEM images and TEM images of ILrGO (a, b, e, f), HBrGO (c, d, g, h).

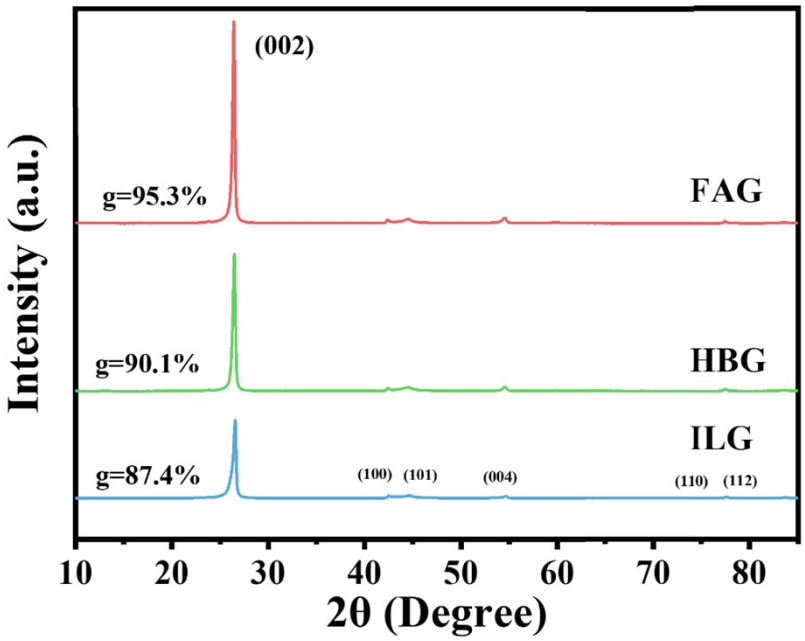
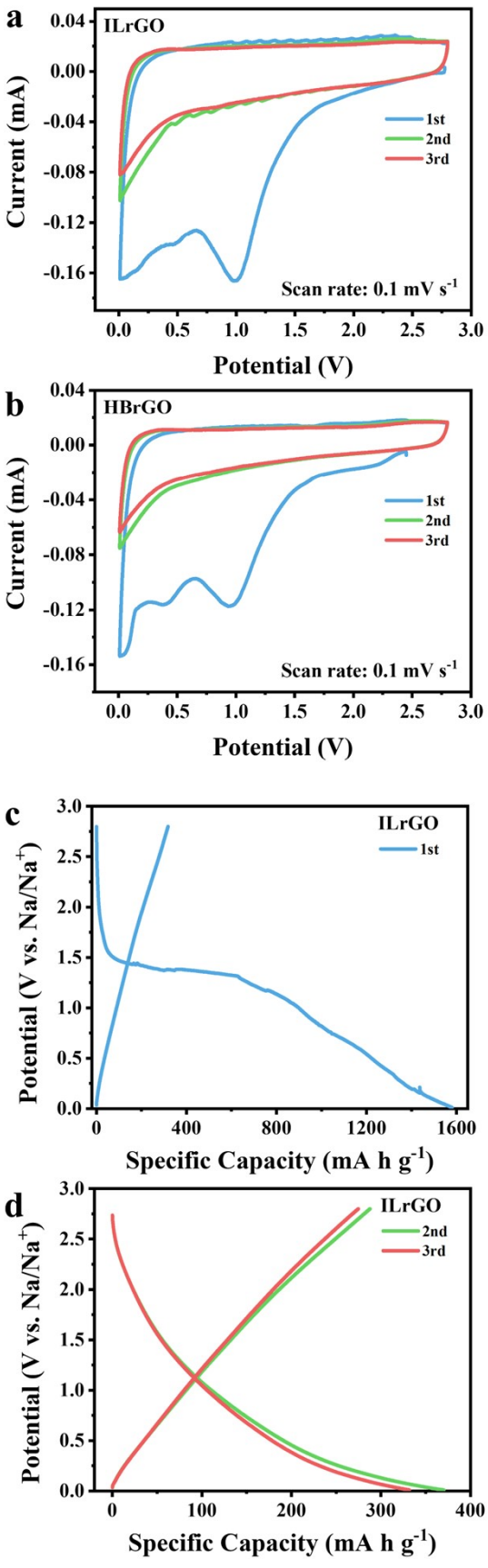
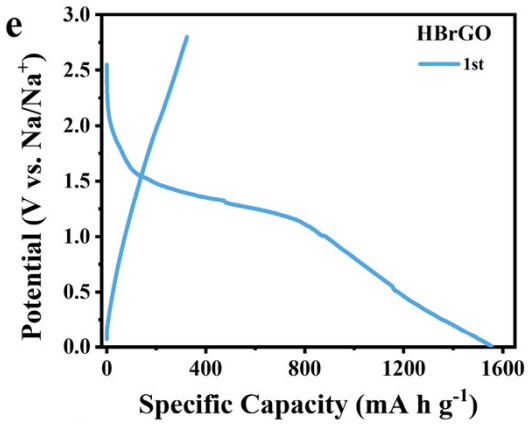


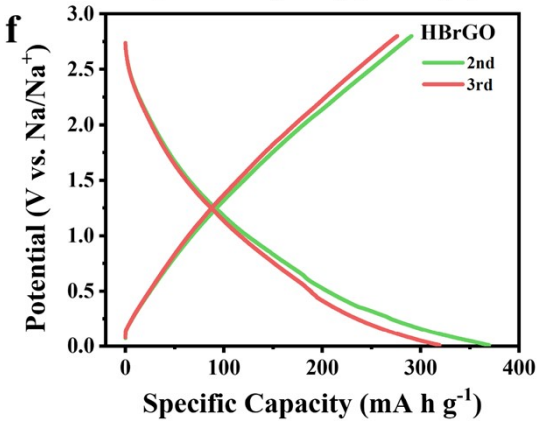
Fig. S2. XRD images of ILG, HBG and FAG.

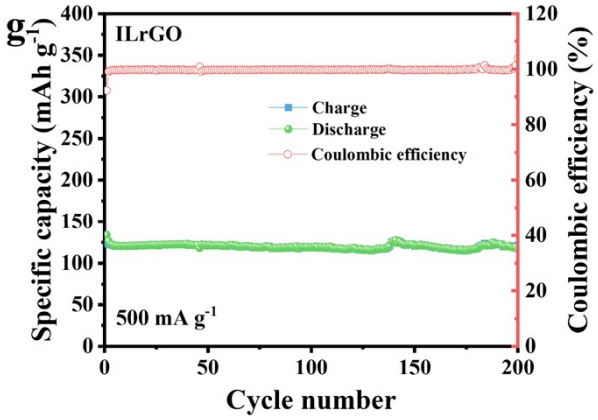
Table S1 Pore structure parameters of ILRGO, HBRGO and FARGO (where APD is average pore diameter)

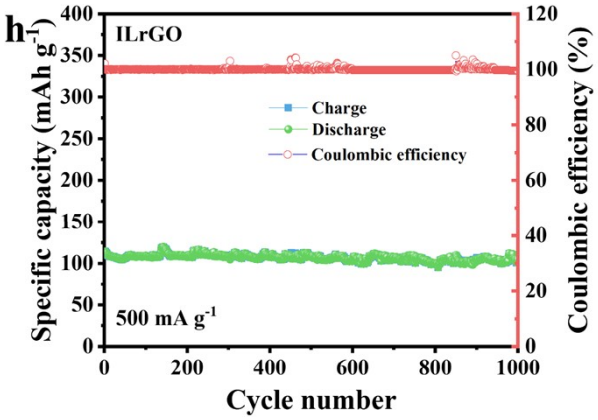
Samples	S_{BET}（$m^2\ g^{-1}$）	V_t（$cm^3\ g^{-1}$）	V_{mic}（$cm^3\ g^{-1}$）	APD（nm）
ILrGO	399	0.91	0.03	9.12
HBrGO	412	1.02	0.04	9.90
FArGO	474	1.21	0.05	10.21


a
ILrGO
Current (mA)
Potential (V)
1st
2nd
3rd
Scan rate: 0.1 mV s-1
b
HBrGO
Current (mA)
Potential (V)
1st
2nd
3rd
Scan rate: 0.1 mV s-1
c
ILrGO
1st
Potential (V vs. Na/Na+)
Specific Capacity (mA h g-1)
d
ILrGO
2nd
3rd
Potential (V vs. Na/Na+)
Specific Capacity (mA h g-1)


e
HBrGO
1st
Potential (V vs. Na/Na+)
Specific Capacity (mA h g-1)


f
HBrGO
2nd
3rd
Potential (V vs. Na/Na+)
Specific Capacity (mA h g-1)


g
ILrGO
Charge
Discharge
Coulombic efficiency
500 mA g-1
Specific capacity (mAh g-1)
Coulombic efficiency (%)
Cycle number


h
ILrGO
Charge
Discharge
Coulombic efficiency
500 mA g-1
Specific capacity (mAh g-1)
Coulombic efficiency (%)
Cycle number

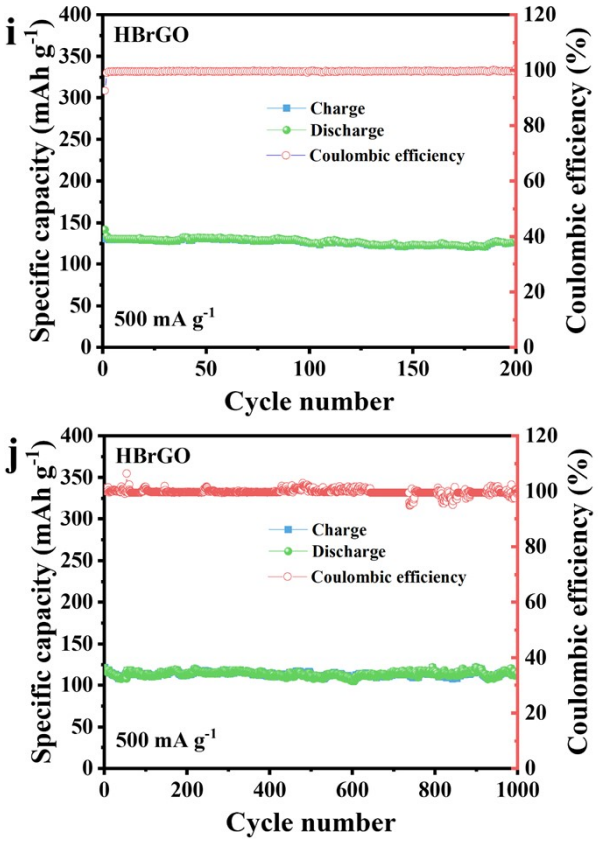


Fig. S3. The first three CV curves of ILrGO (a) and HBrGO (b), the first three charge-discharge curves of ILrGO (c, d) and HBrGO (e, f), and the cycle performance under 0.5 A g^{-1} and 1 A g^{-1} of ILrGO (g, h) and HBrGO (i, j).