Supplementary information:

A QCM based ‘on-off’ mechanistic study of gas adsorption by plasmid DNA and DNA-[Bmim][PF$_6$] construct

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Figure S1. Photographic image of precipitated (by chilled ethanol) pristine DNA and DNA gel after interaction with ionic liquid [Bmim][PF₆].
Figure S2. XPS spectra of DNA, DNA-IL and DNA-IL-Au showing deconvoluted raw spectra.
Figure S3. Molecular structure of ionic liquid [Bmim]PF$_6$. 
**Table S1.** Gaussian fitting values obtained from the IR adsorption spectra (Fig. 4) for [Bmim][PF₆]

<table>
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<th>( \nu_{ss\text{HC}(4)\text{C}(5)\text{H}} )</th>
<th>( \nu_{FR\text{CH}_3} )</th>
<th>( \nu_{as\text{CH}_3} )</th>
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<td>( \nu_{ss\text{HC}(4)\text{C}(5)\text{H}} )</td>
<td>3162</td>
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<tr>
<td>( \nu_{as\text{HC}(4)\text{C}(5)\text{H}} )</td>
<td>3122</td>
<td>( \nu_{ss\text{CH}_3} )</td>
<td>2870</td>
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<td>( \nu_{as\text{CH}_3} )</td>
<td>2965</td>
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Note: ss, as, and FR represent the symmetric stretch, the antisymmetric stretch, and the Fermi resonance, respectively.)