Dear Editor,

By running Grover’s quantum search algorithm on four items in a superconducting two-qubit quantum processor fitted with individual single-shot non-destructive readouts, we demonstrate for the first time quantum speedup in an electrical quantum processor for a non-trivial problem. With this work, we reach a goal that has been pursued for more than 10 years by the superconducting qubit community, and which is of general interest for a broad audience. We thus submit it as a Letter in your Journal.

Best regards,

The authors