

Supplementary Material for:

**Electrical and mechanical properties of ZrO_2 - Y_2O_3 - Al_2O_3
composite solid electrolytes**

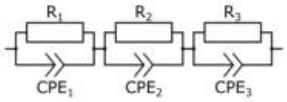
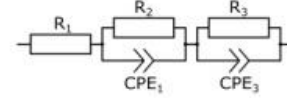
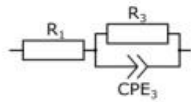
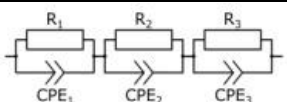
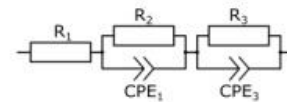
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Table SI. Equivalent circuits applied for different samples and temperatures selected for EIS measurements.

| Sample | Measurement temperature [K] | Equivalent circuit |
|------------------------------|-------------------------------|---|
| 3Y-TZP | 573, 673, 723 |  |
| | 773, 823, 873, 923, 973 |  |
| | 1023 |  |
| 3Y-TZP/0.5 mol% of Al_2O_3 | 573, 673, 723 |  |
| | 773, 823, 873, 923, 973, 1023 |  |

| | | |
|---|--------------------------------|--|
| 3Y-TZP/1.0 mol% of Al ₂ O ₃ | 573, 673, 723 | |
| | b773, 823, 873, 923, 973, 1023 | |
| 8-YSZ | 573, 673 | |
| | 773, 823, 873, 923, 973, 1023 | |
| 8-YSZ/0.5 mol% of Al ₂ O ₃ | 573 | |
| | 673, 723 | |
| | 773 | |
| | 873, 923 | |
| | 973, 1023 | |
| 8-YSZ/1.0 mol% of Al ₂ O ₃ | 573 | |
| | 673 | |
| | 723 | |
| | 773, 823, 873, 923 | |
| | 973 | |