# Evaluating the effect of inert supports and alkali sodium on the performance of red mud oxygen carrier in chemical looping combustion

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**Table S1.** The content of Fe (wt. %) on both the sintered and porous surfaces of five different OC particles as analysed by EDS. All oxygen carriers experienced 35 cycles with 10 vol. % CO in the fluidized bed reactor.

| Particle No. | RM | | Fe50Al | | Fe50Si | |
|---|---|---|---|---|---|---|
| | sintered | porous | sintered | porous | sintered | porous |
| 1 | 59.65 | 48.94 | 54.24 | 33.12 | 39.96 | 20.15 |
| 2 | 78.43 | 61.53 | 58.00 | 30.80 | 31.49 | 16.76 |
| 3 | 68.16 | 51.85 | 47.67 | 19.58 | 40.35 | 25.08 |
| 4 | 85.22 | 61.72 | 50.56 | 19.04 | 52.33 | 20.61 |
| 5 | 73.3 | 48.68 | 55.48 | 23.95 | 36.31 | 32.03 |