

## From window panes to bone regeneration: Structural, viscosity and bioactivity of soda lime silicate glasses

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### Supplementary Information

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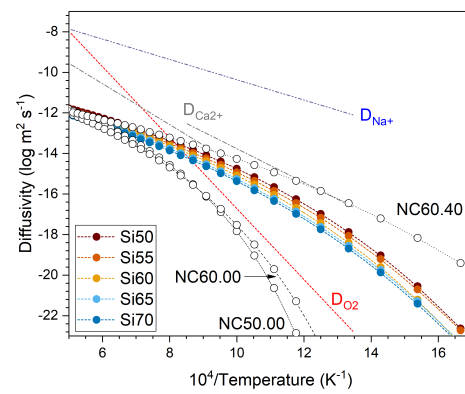
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**Figure S1:** Diffusivity calculated from the viscosity data of the glasses in this study together with that of glasses of the nominal molar composition 50 SiO<sub>2</sub>-50 CaO (NC50.00), 60 SiO<sub>2</sub>-40 CaO (NC60.00) and 60 SiO<sub>2</sub>-40 Na<sub>2</sub>O (NC60.40).<sup>1</sup> Results are compared with literature values for diffusivity of sodium ions in glass of albite or orthoclase composition,<sup>2</sup> diffusivity of calcium ions in glass of albite or jadeite composition<sup>3</sup> and diffusivity of oxygen in diopside glass.<sup>4</sup>

**Table S1:** Parameters obtained from the fitting of the low-temperature viscosity data by the Vogel-Fulcher-Tammann equation.

| Glass | A<br>J/mol | B<br>J/mol K | T <sub>1</sub><br>K |
|-------|------------|--------------|---------------------|
| Si70  | -10.934    | 10870        | 364.96              |
| Si65  | -9.1157    | 8617.2       | 422.76              |
| Si60  | -3.9871    | 4180.3       | 554.39              |
| Si55  | 0.94997    | 1776.2       | 639.31              |
| Si50  | 0.84529    | 1672.5       | 638.31              |

**Table S2:** Parameters obtained from the fitting of viscosity data by the Adam-Gibbs equation: temperature of viscosity  $10^{12}$  Pa s ( $T_g(\eta)$ ), heat capacity of the glass at the onset of  $T_g$  ( $C_p^g(T_g)$ ), heat capacity of the liquid ( $C_p^l$ ), configurational heat capacity ( $C_p^{conf}$ )

| Glass | T <sub>g</sub> ( $\eta$ )<br>°C (K) | C <sub>p</sub> <sup>g</sup> (T <sub>g</sub> )<br>J/mol K | C <sub>p</sub> <sup>l</sup><br>J/mol K | C <sub>p</sub> <sup>conf</sup> (T <sub>g</sub> )<br>J/mol K | A <sub>e</sub><br>J/mol | B <sub>e</sub><br>J/mol K | S <sup>conf</sup> (T <sub>g</sub> )<br>J/mol |
|-------|-------------------------------------|--|--|---|-------------------------|---------------------------|--|
| Si70  | 566<br>(838.9)                      | 69.86  | 85.89                                  | 16.03   | -2.31                   | 98661                     | 8.22   |
| Si65  | 558<br>(830.9)                      | 69.97  | 86.64                                  | 16.67   | -2.45                   | 97766                     | 8.17   |
| Si60  | 543<br>(815.9)                      | 69.94  | 87.39                                  | 17.45   | -2.21                   | 80559                     | 6.93   |
| Si55  | 527<br>(800.1)                      | 69.87  | 88.14                                  | 18.27   | -2.27                   | 79577                     | 6.96   |
| Si50  | 515<br>(788.2)                      | 69.89  | 88.90                                  | 19.01   | -2.43                   | 77925                     | 6.84   |

## References

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