

Diagram illustrating the structure of the E_6 root system, showing the root α_1 and its reflections across the hyperplanes defined by the other roots. The diagram is organized into four rows, each representing a different level of the root system hierarchy.

The top row shows the root α_1 (labeled $5-1-642-3$) and its reflections across the hyperplanes defined by the other roots, labeled $5-6$, $4-3$, $2-1$, and $2-3$.

The second row shows the roots α_2 (labeled $56142-3$), α_3 (labeled $5-1-6-2-4-3$), α_4 (labeled $5-4612-3$), and α_5 (labeled $5-1-6423$), along with their reflections across the hyperplanes defined by the other roots, labeled $4-3$, $2-3$, $5-6$, $5-4$, $5-4$, $2-3$, $5-6$, and $2-1$.

The third row shows the roots α_6 (labeled $561-2-408561423$), α_7 (labeled $11DUP561-2-4-3$), α_8 (labeled $261-5-4-3$), α_9 (labeled $-5-4612-3$), α_{10} (labeled $5-46123$), and α_{11} (labeled $41DRAW561235-46123$), along with their reflections across the hyperplanes defined by the other roots, labeled $5-4$, $1-2$, $5-4$, $1-2$, $2-3$, $6-5$, $6-5$, $2-3$, $5-4$, $3-4$, $5-4$, and $3-4$.

The bottom row shows the roots α_{12} (labeled $2-1-6-5-4-3$), α_{13} (labeled $5612-4-3$), α_{14} (labeled $12DUP2-1-6-5-4-3$), α_{15} (labeled $15DUP5612-4-3$), α_{16} (labeled $2345-1-6$), α_{17} (labeled $22DUP2-1-6-5-4-3$), α_{18} (labeled $45612-3$), α_{19} (labeled $-5-46123$), α_{20} (labeled $34DUP-5-46123$), α_{21} (labeled $5-4-3-2-1-6$), α_{22} (labeled $43DUP-5-46123$), α_{23} (labeled $46DUP5-4-3-2-1-6$), and α_{24} (labeled $4DRAW-2-1-38DRAW62-1-8DRAW1234-2-114DRAW62-1-12DRAW3-5-42DRAW62-124DRAW62-12DRAW43DRAW2-5-43DRAW2-58DRAW2-514DRAW561234DRAW2-37DRAW2-514DRAW561234$), along with their reflections across the hyperplanes defined by the other roots, labeled $2-1$, $2-3$, $5-4$, $2-3$, $2-1$, $2-3$, $5-4$, $2-3$, $2-1$, $5-6$, $2-1$, $2-3$, $4-3$, $2-3$, $6-5$, $3-4$, $6-5$, $3-4$, $5-4$, $5-6$, $6-5$, $3-4$, $5-4$, $5-6$, and $5-4$, $5-6$.