

The diagram illustrates a hierarchical tree structure of Dynkin diagrams for  $E_6$ . The root node is labeled "ROOT -111-244". It branches into three main paths:

- Left Path:** Leads to a diagram labeled "-11-3-244". This path further branches into several sub-diagrams, including "220EP-512164", "21-1544", "-5-4-623-1", "-51-6224", "400EP21-1544", "400EP3-2-1544", "2-4-5134", "550EP-5-4-623-1", "600EP-5-4-63-2-1", "-6-51234", "500EP-6-51234", "3454-2-1", and "180EP3456-2-1".
- Middle Path:** Leads to a diagram labeled "2-3-1544". This path further branches into several sub-diagrams, including "220EP-3-2-1544", "220EAW-5-4-6-3-2-1", "220EP-3-2-1544", "300EAW-5-4-6-3-2-1", "-5-4-3-24-1", "300EP-4-4-3-24-1", "400EP-3-2-1544", "400EP-3-2-1544", "2-4-5-4-3-1", "500EAW-5-4-6-3-2-1", "520EP-5-4-3-24-1", "400EP-5-4-34-2-1", "400EAW-5-4-6-3-2-2-1", "5-500-6-5-4-3-2-1", "30-500-6-5-4-3-2-1", "30-500-6-5-4-3-2-1", "41-500-6-5-4-3-2-1", "41-500-6-5-4-3-2-1", "51-500-6-5-4-3-2-1", "51-500-6-5-4-3-2-1", "61-500-6-5-4-3-2-1", and "61-500-6-5-4-3-2-1".
- Right Path:** Leads to a diagram labeled "-5-4-62-3-1". This path further branches into several sub-diagrams, including "512164", "3-2-1544", "-4-4-63-2-1", and "-512-634".

Each diagram is represented by a set of nodes (circles) connected by lines (edges). Some nodes are labeled with numbers in blue, indicating specific weights or values. The overall structure is a complex, multi-level tree.