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Suppose that the distinguished basis  $B$  of a table algebra is a union of  $n$  proper closed subsets (whose intersection we denote as  $C$ ). Our main result is that if all the positive structure constants of the standard quotient (double coset) basis  $B//C$  are at least 1, then the order (valency)  $o(B//C)$  is bounded above by a function of  $n$ . This generalizes a result of B. H. Neumann for finite groups, and is applied to character rings of finite groups and to association schemes. (Received February 26, 2013)